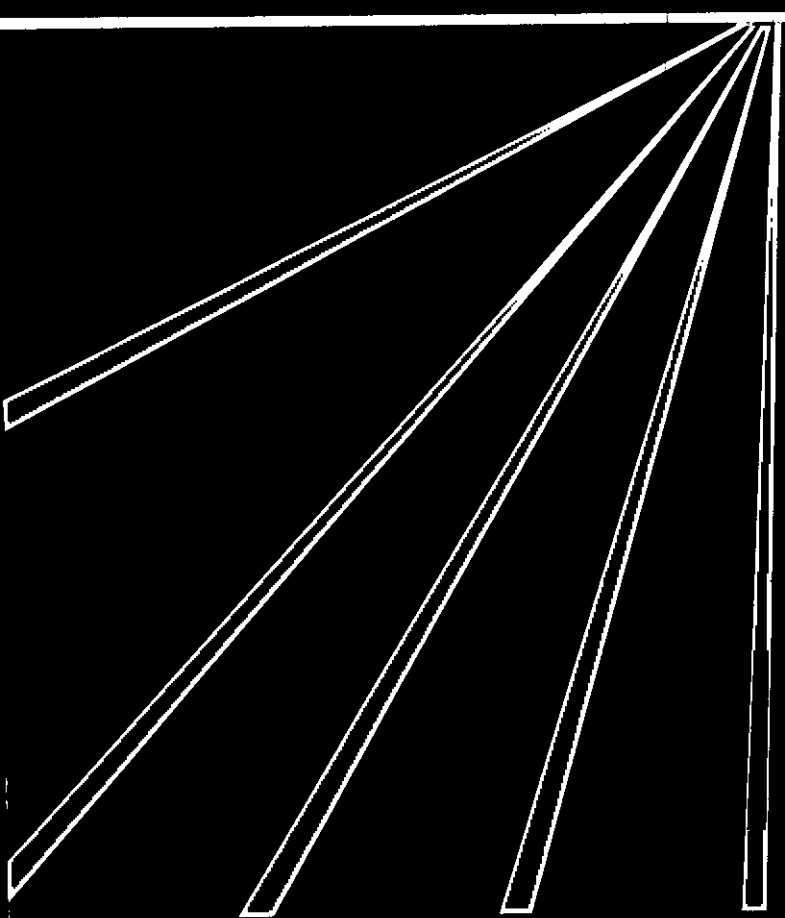
national engineers week february 20-26

engineering...
a better tomorrow
through technology



LOUISIANA ENGINEER

FEBRUARY 1972

AN INVITATION TO PARTICIPATE

LES

LOUISIANA ENGINEERING SOCIETY

AN INVITATION TO MEMBERSHIP

Membership in the Louisiana Engineering Society is an important part of your personal and professional life. Think of the amount of time and money you have invested in your professional training. You certainly carry insurance on your life and your physical property. But what about your time-and-dollars investment in your profession which is undoubtedly your most valuable asset?

In a society based largely on group relations, the engineer needs to safeguard his professional and economic welfare. He needs protection in the Legislature from those who would damage his status. He needs the benefits of prestige built up through group public relations and a strong voice to stress that he is a professional man. He needs protection against unethical competition and against all influences which might undermine public confidence in his integrity and competence. He needs an instrument for shaping public policy of his profession. These safeguards and needs are realized through membership in the Louisiana Engineering Society.

GRADES OF MEMBERSHIP

Member—Registration as a Professional Engineer in any state, or graduate of approved college, plus experience in a branch of engineering not provided for in Louisiana registration laws, or registered Land Surveyor in La. **Professional Investment $25.**

Junior Member—An EIT certificate from any state, or graduate of approved college, and not less than 20 nor more than 32 years of age . . . **Professional Investment $17.**

Affiliate Member—An engineer or other person whose experience qualifies him to cooperate with engineers in the advancement of professional knowledge and practice . . . **Professional Investment $28.**

Student Member—Pursuit of an engineering degree via full-time engineering curriculum in an approved college . . . **Professional Investment $1.**

Non-resident membership is available to those residing outside of Louisiana and the Professional Investment is approximately 57% of that shown for LES.

LOUISIANA ENGINEERING SOCIETY
APPLICATION FOR MEMBERSHIP

GENTLEMEN:

I hereby apply for admission into the Louisiana Engineering Society as a _____ (grade) and agree to comply with the Constitution and Bylaws and the Code of Ethics of the Society. I also apply for admission into the National Society of Professional Engineers, if qualified and if I have indicated 'yes' to question No. 8 opposite.

Please assign me to the Chapter checked below:

Alexandria	☐	Baton Rouge	☐	Bayou	☐
Lafayette	☐	Lake Charles	☐	Monroe	☐
New Orleans	☐			Shreveport	☐
Non-Resident	☐	_____			☐

☐ INTRODUCTORY MEMBERSHIP OFFER ACCEPTED

Date _____

Signed: _____

FUNCTIONAL SECTION PREFERENCE
(Check One)

☐ Government ☐ Private Practice
☐ Industry ☐ Education

PLEASE COMPLETE THE FOLLOWING SPACES

1. Name _____ (Last) (First) (Initial)
2. Home Address _____ (Street) (City and State) (Zip Code)
3. Business Affiliation _____ Position or Title _____
4. Business Address _____ (Street) (City and State) (Zip Code)
5. Telephone: Home _____ Office _____ Please Send All Mail to: Home ___ Office ___
6. REGISTRATION: PE ☐ LS ☐ EIT ☐ None ☐
   Branch _____ State _____ Reg. No. _____
7. Are you now affiliated with NSPE? Yes ☐ No ☐ If yes, what state? _____
8. If no, do you want to become a member of NSPE? Yes ☐ No ☐
9. Have you ever been a member of LES? Yes ☐ No ☐ If yes, you must also complete an 'Application for Reinstatement'.
10. Birth date _____ Age _____ Wife's first name _____
11. Education _____ (School) (Date Graduated) (Degree Obtained)
12. Major engineering discipline _____

NOTE: If you are a PE, EIT or LS only a Sponsor is needed, otherwise please list the names of three LES members as your references. A brief professional experience record must be attached if you are not a PE, EIT or LS.

1. _____
2. _____
3. _____

Mail to LES, P. O. Box 2683, Baton Rouge, La. 70821.

L.E.S. SPRING MEETING
March 3 & 4, 1972
Rowntowner Motor Inn
Lafayette, La.

Dr. Jack Thigpen, chairman of the L.E.S. Annual Meetings Committee, urges members of the Society to attend the Spring Meeting scheduled for March 3 & 4, 1972 in Lafayette at the Rowntowner Motor Inn.

The Lafayette chapter will be the host for the meeting and chairman Jesse Odom has arranged for a real South Louisiana Crawfish Boil.

The preliminary program is as follows:

Friday, March 3

10:00 a.m.	Registration
1:00 p.m.	General Session
3:00 p.m.	Functional Section Meetings
4:30 p.m.	Joint Meetings of Functional Sections
7:00 p.m.	Crawfish Boil

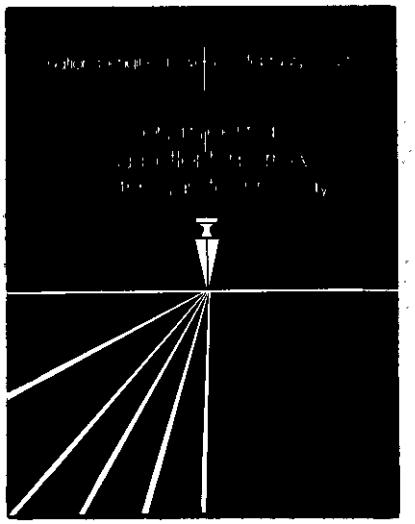
Saturday, March 4

8:00 a.m.	Registration
8:30 a.m.	L.E.S. Committee Meetings
10:00 a.m.	General Meeting
12:00 noon	Presentation of Student Papers
12:30 p.m.	L.E.S. Awards Luncheon
2:00 p.m.	General Society Business Session

Please make every effort to attend. Make your reservations now:

The Rowntowner Motor Inn
Highway 167 North
P. O. Box 3466
Lafayette, Louisiana 70501
Phone A.C. 318 233-2090

Tell them you are attending the Louisiana Engineering Society meeting. See you in Lafayette!



COVER

Engineers Week is observed nationally February 20-26. Theme for 1972 is "Engineering . . . a better tomorrow through technology."

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LOUISIANA ENGINEER

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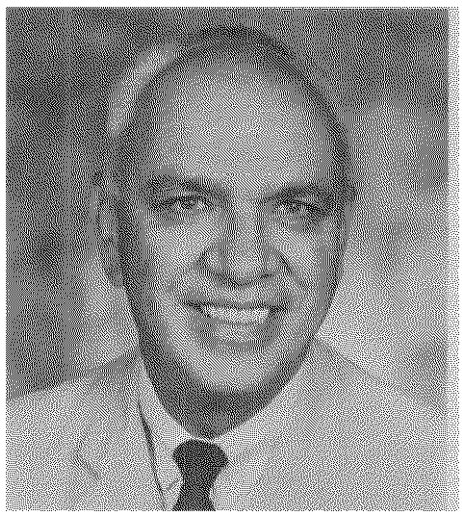


PRESIDENTIAL PRIVILEGE

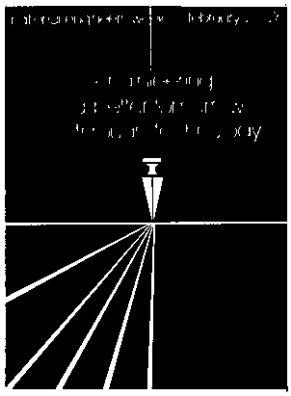
As we start the second half of this administrative year, we eagerly await several meetings that will be important to the profession and to every individual of the Society. Our Spring meeting will be held this year in Lafayette on March 3 and 4. A preliminary program is printed elsewhere in this magazine. Functional section meetings will be held on Friday and committee meetings will be held on Saturday before the Board meeting. Many projects that have been started will be finalized at this time. Lafayette has always extended a warm welcome to all engineers and we know that Jesse Odom and his fine group are making an extra effort to welcome each engineer and his family. We want you to attend and participate.

On July 27-29 our Society will combine efforts with the Mississippi Society of Professional Engineers in order to continue the great joint meeting that was inaugurated last year in Biloxi. The new Marriott Hotel in New Orleans will be the location of this meeting. Kindly reserve these dates and bring your family to New Orleans.

Individual engineers in our Society continue to exert extraordinary leadership in the affairs of our profession. At the recent N.S.P.E. meeting in Dallas in January, L.E.S. members made a clean sweep of vice chairmanships for the Southwestern Region. Jim Janssen was elected vice chairman of the P.E.I. section, Frank Heroy, Jr., was elected vice chairman of the P.E.G. section and Leo M. Odom was elected vice chairman of the P.E.P.P. section. Our congratulations to these distinguished leaders. We invite your attention to the report which is printed in this copy of the magazine.

It is fitting that this issue of the LOUISIANA ENGINEER is dedicated to National Engineers Week. During this observance, the engineering profession will focus positive attention on the merits of applied technology to meet the urgent problems of the day and create a better tomorrow. Join your fellow engineers in your chapter in observance of Engineers Week—Feb. 20-26.

Trudeau J. Hogue, Jr.



THE WHITE HOUSE

WASHINGTON

National Engineers Week, 1972

During this traditional observance of National Engineers Week, it is appropriate that all Americans honor those talented and hard-working men and women whose skills are so basic to realizing the technological advances that will assure for all of us the improvement we seek in the quality of life in our society.

It is well that we salute their imagination, recognize their achievements and encourage their continuing dedication to the needs of their fellow citizens.

On behalf of a proud and grateful nation, I pay tribute to these builders of yesterday and tomorrow.

Richard Nixon

"ENGINEERING . . . A BETTER TOMORROW THROUGH TECHNOLOGY"

Historically, Americans have tended to do that which was technically possible—as long as it was economically advantageous—on the simple ground that it represented "progress." However, over the years, as technology increased with great rapidity, it has forced on this country increasing unplanned social change and environmental problems we did not anticipate and do not want.

This is being recognized among members of the engineering community. There is an increasing awareness that applied technological research and development can and must be planned in an orderly fashion. Such planning would not repress technology, any more than city planning stifles building construction. On the contrary, it is likely to stimulate new environmental research and development because it takes technology to minimize the undesirable effects of technology.

Therefore, during this National Engineers Week observance, the engineering profession will focus positive attention on the merits of applied technology to meet the urgent problems of the day and create a better tomorrow. The list of needed technological advances is endless—and the goal is technology that meets human needs, especially in urban and environmental problem areas. New technologists to serve the people is the challenge put forth to the engineering community in the decade of the 1970's. And it means, in sum, a new definition of progress.

The engineering profession will meet this challenge head on.

Chapters Prepare For National Engineers Week

ALEXANDRIA

Alexandria Chapter President Dan Brown announced that the Engineers Week Banquet is scheduled for Friday, February 25, 1972. The guest speaker will be Dr. J. J. Thigpen, Vice President of the Louisiana Engineering Society.

In addition to the banquet in recognition of Engineers Week, the chapter has library exhibits, poster displays throughout the community, as well as high schools in the area.

TV and radio spots are being used to make the public aware of the role of the engineer during Engineers Week.

BAYOU

The most recently formed chapter of the Louisiana Engineering Society is cooperating with local industry in observing Engineers Week. They are sponsoring news articles and radio spots in saluting the nation's engineers during the weeks' activities.

A banquet is planned for chapter members and wives at Nicholls State University. The engineering students and faculty are assisting with the planning and arrangements.

LAKE CHARLES

J. B. Boulet, Chairman, Engineers Week Committee, announced that activities this year will include proclamations by local mayors, displays of scale models covering outstanding area engineering achievements, open house at McNeese State University's School of Engineering, Engineers Week Posters, newspaper articles, appearances on TV programs, Engineers Week Banquet on February 24 and the McNeese Engineering Society dance on February 26 where the McNeese Engineering Society queen is crowned.

The banquet this year will be at the Sheraton-Chateau Charles and will feature R. A. Riley, Executive Vice President of the Firestone Tire and Rubber Company of Akron, Ohio as guest speaker.

Ed Lively, Public Relations Director of Continental Oil Company, will act as Master of Ceremonies. An anticipated 45 McNeese Engineering Society members and dates will be guests at the banquet. The Lake Charles Chapter of L.E.S. will award the outstanding senior McNeese engineering student a $100 gift certificate and a plaque. The L.E.S. Auxiliary will make a $50 award to the outstanding junior McNeese engineering student.

BATON ROUGE

Plans are well along for the observance of Engineers Week by the Baton Rouge Chapter, according to Charles Hair, Chairman of Engineers Week. Members of the committee are arranging for releases to the newspaper and also for radio and TV spot announcements publicizing the occasion. Four billboard posters hopefully, will be erected by Lamar Advertising Company as part of their public service work.

A banquet is to be held on February 24 at the Prince Murat Inn in Baton Rouge. Speaker for this function will be Henry Zac Carter, president of Avondale Shipyards. Members from all engineering and scientific societies are being invited as are members state wide.

MONROE

The Monroe Chapter has organized an Engineers Week Committee, and is planning Engineers Week in Ruston and Monroe.

In addition to television, radio, newspaper and bulletin board coverage, tours to plants and engineering concerns will be conducted for the prospective engineering students from the local high schools. Awards will be made to the outstanding student in each school.

The big meeting that week will be at Louisiana Tech, Tuesday, February 22, and will be for husbands, wives and honored students. Guest speaker will be Harry S. Bovay, N.S.P.E. Director from Houston.

NEW ORLEANS

Plans for Engineers Week are in progress and include the following:

1. A proclamation from Mayor Landrieu formally dedicating the week of February 20-26, 1972, as Engineers Week in New Orleans.
2. The feature race at the Fair Grounds will be dedicated as the Engineers Week Handicap.
3. Two billboards will be installed in cooperation with Industrial Electric Displays.
4. Arrangements have been made with three local radio and TV stations for broadcast of public service messages.
5. A window display will be installed in the NOPSI window to call attention to Engineers.
6. Pertinent articles will be supplied to the local newspapers for publication.
7. A joint meeting with ASME is planned for February 22, 1972.

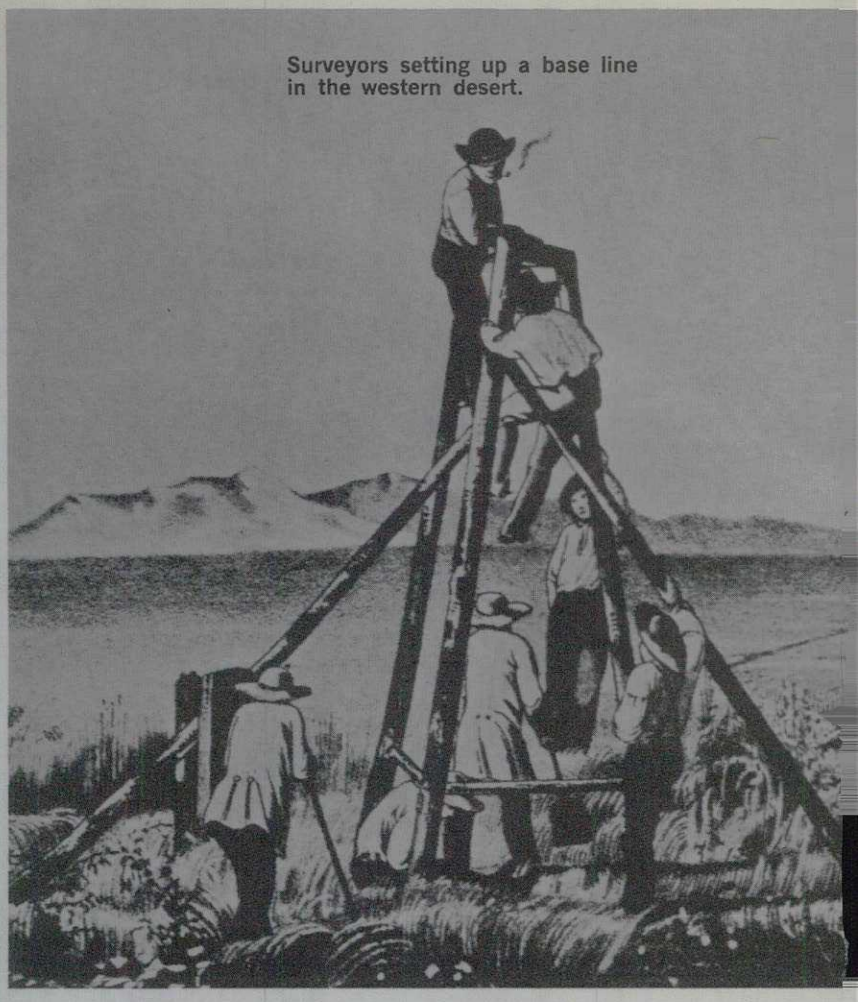
SHREVEPORT

The activities for Engineers Week for the Shreveport area are planned each year by a local organization called the Engineering and Scientific Council of Shreveport. This council is composed of a representative from each engineering and scientific technical organization.

The Shreveport Chapter of the L.E.S. is represented on the council by Tom Nesbitt, who has done an excellent job in chairing the committee for selection of an engineer or scientist from our local to receive the annual "Engineer or Scientist of the Year" award.

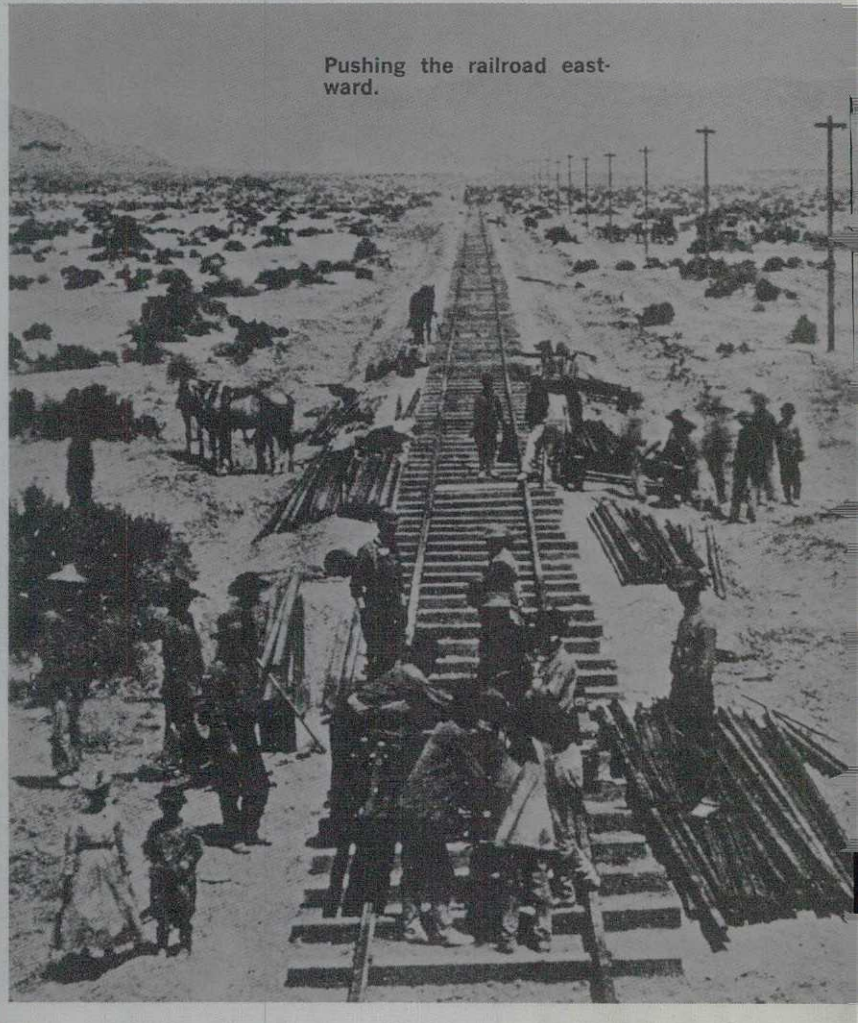
This year's award will be presented at the Engineers Week Banquet to be held at the Shreveport Convention Center on the evening of February 26. The featured speaker at the banquet will be Dr. Joyce Brothers.

200 YEARS OF ARMY ENGINEERS



Surveyors setting up a base line in the western desert.

Lt. John C. Fremont (seated) and his guide Kit Carson.



Pushing the railroad eastward.

Major General Charles C. Noble, President, Mississippi River Commission, and Division Engineer, Corps of Engineers.

The U.S. Corps of Engineers has been linked with the public service and the well-being of this country since the start of our struggle for independence. The very first job of our first Chief Engineer, Colonel Richard Gridley, was to lay out the defenses of Breed's Hill near Boston. He toiled with pick and shovel alongside his men to build the fortifications, and the next day he was wounded in the Battle of Bunker Hill. Colonel Gridley set the tone, and ever since then, Army engineers have been in the thick of the work and of the fighting, dedicated in peace and war to the public interest, and to making this country strong and vigorous and free.

After this nation achieved independence, Americans began looking to the uncharted West. The first great organized migration to the West was led by Colonel Rufus Putnam, who had succeeded Colonel Gridley as Chief Engineer. During the six decades of exploration, trail blazing and expansion to the Pacific Ocean, Army engineers were in the vanguard and were the principal agents of the government in the exploration of the West to locate wagon and railroad routes. I shall mention only a few exploits. Lieutenant Zebulon Pike, after whom Pike's Peak is named, explored the Missouri Valley in 1815. Lieutenant John C. Fremont surveyed the Oregon Trail and opened up California in 1842. Lieutenant A. J. Donelson surveyed the line of the Northern Pacific Railroad. Other Corps survey parties located the transcontinental routes of the Santa Fe, Union Pacific, and Southern Pacific. In 1871, Lieutenant George M. Wheeler commenced a 13-year survey of all the territory of the United States west of the 100th meridian, which approximately bisects the Dakotas, Nebraska, and Kansas, and continues on past Wichita Falls and Laredo, Texas.

The Corps also surveyed and mapped the Great Lakes and marked all the boundaries of the United States and most state boundaries as well.

Catalogued Resources

During this period of exploration, Army engineers systematically catalogued the wildlife and other natural resources in the areas of their expeditions. They explored, recommended, and carried out the first measures to preserve from private exploitation such national scenic treasures as the areas that were subsequently designated the Yellowstone, Yosemite, and Sequoia parks. The Corps administered the Yellowstone area as a public trust from 1870 until the founding of the national park system, and Yosemite and Sequoia from 1864 until 1916, except for a short, temporary period when they were state parks. In referring to the Corps' stewardship of these parks, the great naturalist, John Muir, declared, "Blessings on Uncle Sam's soldiers, as they have done the job well, and every pine tree is waving its arms for joy." At least at that point in history, the Corps of Engineers was the darling of the Environmentalist.

Backing up to 1824, the Corps was given its first water resource development project—the clearing of snags and sandbars from the Ohio and Mississippi rivers to aid navigation. Flood control was added as an incidental function with the creation of the Mississippi River Commission in 1879, and became a project purpose in its own right in 1917.

Other notable early civil works accomplishments during the expansion period of our nation included the construction of many public facilities, such as the Washington Monument, the wings and dome of the Capitol Building, the Library of Congress, the Lincoln Memorial, the Key Bridge across the Potomac, and the State, War, and Navy Building. Often handed difficult assignments others were having difficulty in accomplishing, the Engineers completed the Panama Canal and raised the battleship Maine from its tomb in Havana harbor.

During World War I, our units provided combat and operational support, built camps, depots and hospitals in France, maintained vital transportation facilities, and embarked on a new but now standard task of providing potable water to combat troops.

The land conflict of World War II was known as an engineers' war. The accomplishments of the engineers were recorded in every theater of operations. The Alcan Highway, the Ledo and Burma Roads, the clearing of landing beaches in the Mediterranean and at Normandy, cutting through hedge-rows and other obstacles, and the development of the atomic bomb were achievements of Army engineer ingenuity, valor, and organizational ability. The same tradition was carried on in the hills of Korea when that land was attacked and over-run by Communist forces.

Between the two world wars, the Army's civil works mission had grown significantly. Navigation improvement projects had expanded to include flood control provisions. With the building of great dams, the Corps' mission was expanded naturally into multi-purpose project purposes, and to hydro-electric power assignments.

Today the entire defense establishment, and particularly the Army, is coming under unending criticism and attack. The Corps of Engineers is not only receiving the brickbats being cast as part of the general antimilitary movement, but we are also the prime target of those who, in their concern for the environment, see the engineer as a natural enemy. In the confusion of regret over some of the results of early technological excesses, they fail to realize that the best means to clear up the environment is through technology. The most unproductive approach is a futile attempt to go back fig-

uratively to the Stone Age, which, even if attainable, would not achieve the desired result. In these attacks, of course, the Corps is being used as the instrument of attack against all engineers and all development.

Speaking as an Army engineer, it is difficult to swallow a concept that a military-civilian team which has pioneered in the betterment of this country for 200 years has all of a sudden gone sour. Some of our more generous critics say if we would only do as they want, the Corps could "Regain the proud tradition and impressive image it once enjoyed." This was answered by an editorial writer for the Mobile Register who wrote, "The Army Engineers have done nothing to damage their proud tradition and impressive image." And I believe I am far from alone in agreeing with that.

The Chief of Engineers, General Clarke, has commented that, with our country growing like it is, the American people just cannot let nature take its course. Our population is expected to double in the next 40 years, and already we are experiencing contradictory demands on our dwindling resources.

People write lengthy letters on paper to editors of bulky newspapers denouncing paper mills; they drive across town and fly across the country in gas-consuming transportation to denounce the petroleum industry; they sit in brilliantly lighted homes telephoning lawyers in air-conditioned offices to discuss suits against power plant locations; they berate increasingly higher costs of living while resisting the development of low-cost water transportation routes, and demanding costly unrealistic time schedules for industry to meet new environmental restrictions.

People are demanding more and more of our natural resources, yet demand that these same resources be left untouched. Young people are loud in their condemnation of their elders for pollution and environmental depredation; yet they are collectively the greatest litterbugs of all time. There are many more angry staters of problems than contributors to quiet solutions.

And to a large degree, caught in the middle, is the Army Corps of Engineers. General Clarke has described our position as being blamed for presenting a bill by people who have forgotten that they ate the dinner. They have overlooked that a need for a development has a cost—whether it is satisfied or ignored.

The indignation expressed in meeting halls and the courtrooms is contradicted by the same public in the market place, in the employment bureau, and in the obstetrical ward because too many of our people have not considered the full implications of the courses they endorse. They have been caught in the emotional, unthinking excitement of the times.

"Good Old Days"

Those conservationists who seek a return to the good old days forget what these days were like. The air over the cities and countryside turned black as it spiraled out of the Dust Bowl, carrying topsoil across the Great Plains. Burning eyes, scratchy throats, and hacking coughs were evident in dusty cities just as they are in today's smog-covered communities.

Rivers were not necessarily pristine pure in the days of the Indians. Lewis and Clark reported that the muddy Missouri River had no fish and could support none, but today that same river is a source of income to commercial fishermen as a result of six dams, and other works, erected by the Corps. Mark Twain eyed the muddy Mississippi and described the silt-laden water as too thick to drink and to thin to plow.

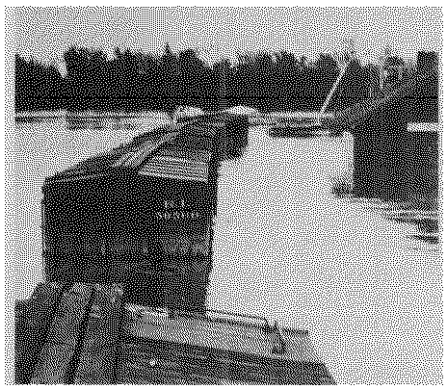
Often the rivers carried more than topsoil. Raging floods would sweep away homes and barns, factories and shops, crops and livestock, and, too often, people.

Wet cycles would suddenly change to dry ones, and farmers and ranchers had to contend with a parched and cracked earth. Many went to their graves, broke and frustrated from a lifetime of trying to get in just a few good crops.

These were the "good old

Control of the Mississippi River in Louisiana has resulted in a vast industrial complex between Baton Rouge and New Orleans.

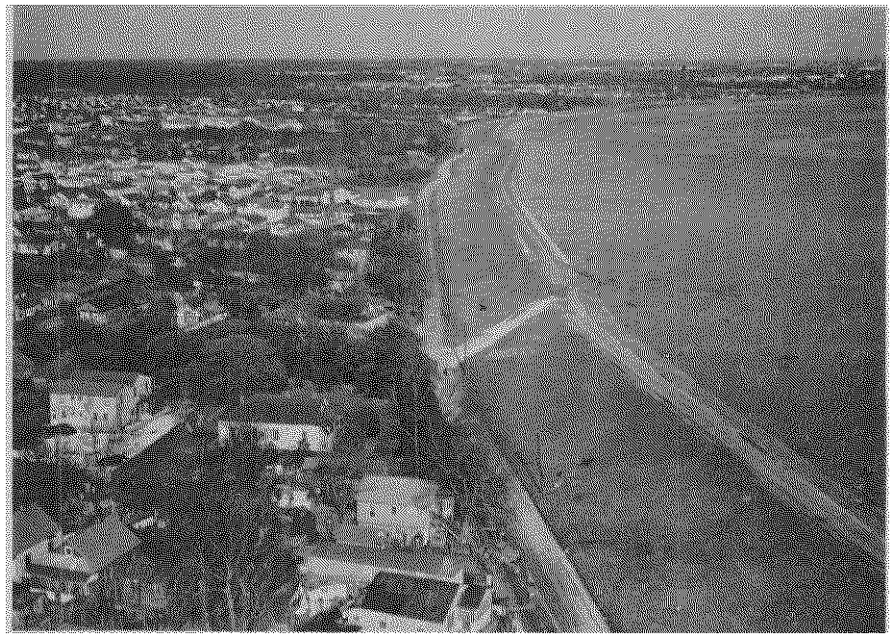
days," and Americans were tired of them. Today, they would panic at any real prospect of returning to them. People were fed up with being left at the mercy of the whims and fickleness of nature. They saw conservation of natural resources in terms of the development of these resources for the good of humanity. The great conservationist, President Theodore Roosevelt, put it this way: "Conservation means development as much as it means protection." He turned increasingly to Army Engineers to get things done, to harness and conserve the Nation's natural resources for the benefit of the American people.



The Mississippi River inundated freight trains and houses at Bordelonville, La., during the 1927 flood.

Dams and reservoirs, large and small, took shape in the Dust Bowl and in other parts of this great land. Earth levees and concrete floodwalls took their stands along often-flooded river banks. Water stored behind the dams was sent to the lands through vast irrigation systems which made the prairies bloom. Hydroelectric power made the all-electric label possible for farms and cities. Towboats and barges brought life to docks and ports which had been idle since the days of packetboats. Water was available, not only for crops, but for towns and industries, and guaranteed flows kept streambeds covered. Newly born water wonderlands were boons for fish and wildlife and convenient recreation centers for fun-seeking Americans.

A large part of this effort was focused in the valley of the Mississippi River, the life-line of our country. This great river



Residential and industrial areas are protected by levees constructed by the Corps.

which bisects our nation and flows past New Orleans can either be our nation's greatest blessing or its worst disaster. It is a blessing because of the commitment of the American people, and the work of the Army Engineers.

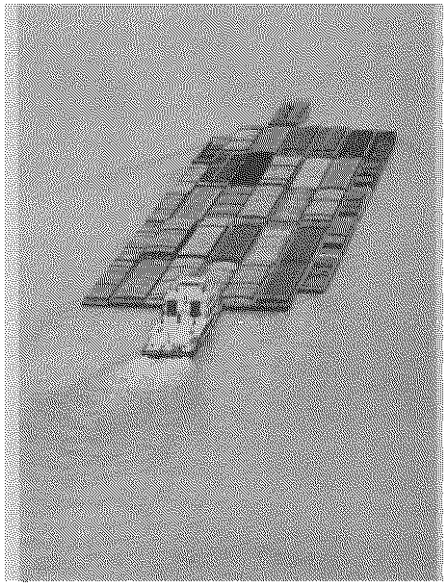
After the 1927 disaster, Congress approved what is known as the Mississippi River and Tributaries Project to prevent another major flood. Since 1929, some $2¼ billion in tax funds have been invested in this project. Farms, homes, stores and factories are protected by 1,600 miles of levees and floodwalls. Cutoffs have shortened the river by some 150 miles and substantially lowered flood stages. A system of dikes and bank stabilization works is holding the river in desired alignments.

Most Successful in History

By all standards, this is one of the most successful projects in the history of our land. Direct benefits are estimated at $16 for each $1 invested. Shipping on this river has increased from 51 million tons in 1947 to 250 million tons last year. The indirect benefits are incalculable. Much of the industrial and commercial activity of our cities can be related to the river. The burgeoning industries that line the banks almost solidly from New Orleans to Baton Rouge and along other stretches of the river . . . the development of first class farms on first class lands . . . the prosperity of many towns . . . and even higher educational levels for the people are also benefits that result from effective control of this great river.

There is no need for me to recite the capability of the Lower Mississippi Valley to serve the people's needs. It can feed our people, and, in truth, it could be the breadbasket for the world. It is a viable, exciting part of the Nation because of the Mississippi River and Tributaries Project.

Yet, this is only a part of the story. Looking across the Nation, we can see traces of the Corps' achievements in every phase of our daily activities. One-sixth of all the Nation's domestic freight moves on the 19,000 miles of inland and coastal waterways built or improved by the Corps. Last year, the 400 parks at our lakes attracted more than a quarter of a billion visitors, more than the national parks and forests combined—The Corps of Engineers is the largest recreation operator in the world. One hundred and fifty fish and wildlife management areas at Corps lakes have benefitted upland game, migratory fowl and wildlife generally. Environmental scars and personal losses from floods have been reduced by $16 billion . . . a return of three times the investment. Since 1963, the Corps has



Tow on the Mississippi River.

been a major agency in disaster relief operations, including follow-ups to hurricanes Betsy and Camille. Corps lakes provided over 3.5 billion gallons of water per day to some 150 towns and cities.

These are some of the products of a more than $10 billion investment by our nation in 150 years. And as work on new Corps projects continues, the dedicated men and women—in and out of uniform — are continuing to break new trails, to open new territories. In preparing for the future needs of our nation, the Corps is leading the way in the comprehensive planning of water resource devedopment. It is providing new assured sources of clear water for cities and towns. The Corps is assisting states in developing waste water disposal systems. It is working with local governments to improve deep water and inland harbors. It is helping cities in metropolitan area studies. The Corps is committed to more than 500 flood plain management studies to assist communities in their planning and as a requirement for flood insurance. It is developing solutions to coastal erosion problems. The Corps is pioneering not only for our country, but for the world in determining the best uses of our resources.

Environment First

In accomplishing what has been done and in our planning for coming generations, the Corps of Engineers has kept foremost in mind that an important part of our environment is man himself. Environmental development, that is, **total** environmental development, is not a new concern of the Corps. When this was a land of plenty and there were resources and room for all, the American people were more concerned in providing for the needs of man than in preserving natural resources, and our directives from Congress were based on this concept. Yet the Corps recognized some years ago that this was changing, and added nonengineering scientists to its staffs to study the biological and other ecological effects of Corps projects. Answers are not easily found, and solutions are not only expensive, but often beyond the existing state of the art.

President Nixon commented in his 1971 Environmental Message: "As our nation comes to grips with our environmental problems we will find that difficult choices have to be made, that substantial costs have to be met, and that sacrifices have to be made. Environmental quality cannot be achieved cheaply or easily. But I believe the American people are ready to do what is necessary."

Some of these costs are associated with the increasingly extensive environmental studies that are having to be made. Summaries of a few pages will by no means satisfy the requirement. We will spend almost a year and a half on an environmental statement for the Cooper Dam on the Sulphur River in Texas. The new environmental statement on Gillham Dam cost $100,000, and the Corps has allocated $1 million on the statement for the Tennessee-Tombigbee Waterway. What was visualized initially by some as a rather simple paper is developing into a complex study that is encompassing the immediate and long range impacts in the project area and in the affected water basin.

Progress toward these goals is being slowed by the unreasonable approach being taken by a few but highly vocal people. With this small element, all development is automatically opposed. These extremists are often shockingly ill-informed and subjective.

Those who would thwart the well-being of the people are being assisted by the broadness of the National Environmental Policy Act of 1969. This well-intentioned legislation has made is almost impossible to defend a project against attack. Despite the tremendous sums and time we are spending on environmental studies, there is no one yet in a position to say how much is enough. How large an area should we study? How extensive should be our inventory of fish, wildlife and rare plants. What are the trade-off values of the esthetic and the practical? Which is more important: a duck, an oyster, or a person's livelihood? Above all, whose judgment is correct and shall prevail when the spectrum of goals, desires, and viewpoints are a maze of conflicts? Whose viewpoint gets greater weight, and on which projects—the casual vacationers from areas remote from the project site, or the local proponents who will be deeply affected if the project is constructed or not?

Conclusions

If we soon do not return to a more balanced approach in development of our resources, we could do grievous harm in providing the essential needs of our people. We are not yet at the critical either-or situation. Fortunately, we still have the time to work out the compromises which will insure both material growth and quality living.

We must find a place for both power plants and air-conditioned homes; for newspapers and paper mills; for cars and clean air; and for wildlife and farmlands.

In fact, beneath the shrill cries of a few, I can hear a truer voice of the environmental movement that calls for this quality in our lives: A value that ignores neither its material nor its spiritual aspects. I believe that when the accounts are balanced, our people will want a life that is more prosperous, as well as more beautiful.

REPORT ON WINTER MEETING

N.S.P.E. Board of Directors
January 13-15, 1972
Dallas, Texas

Frank M. Heroy, Jr., P.E.
L.E.S. National Director

Representing Louisiana at the Board of Directors meeting were Waldemar S. Nelson and Frank M. Heroy, Jr.; PEI was represented by James S. Janssen of New Orleans; PEPP by Jim Meyers of Alexandria; PEG by Frank M. Heroy, Jr. of Baton Rouge; and Gerald Simmons represented Louisiana at the State Society Administrators Council.

Louisiana made a clean sweep of vice-chairmanships for the Southwestern Region. Jimmy Janssen was elected Vice-Chairman of P.E.I., Frank Heroy was elected Vice-Chairman of P.E.G., and Leo Odom was elected Vice-Chairman of P.E.P.P.

Significant action by the Board of Directors included the following items:

1. A new Legal Assistance to Engineers policy was adopted which allows "NSPE to protect the interest of the individual engineer by being able to provide legal assistance to help guarantee his privilege to practice engineering." This will be funded by voluntary contributions and NSPE budget (to the extent possible). The National Engineers Legal Fund Inc. has indicated they would dissolve their group if NSPE took the above action.

2. The "Recommended Income-Benefit Ranges for Professional Engineers" was accepted in draft form for use by the NSPE President in opening discussions with other professional engineering societies in order that the engineering profession would be in general unity on the subject. Then the recommendations could be tested with representatives of industry and government.

3. A "Proposed Guidelines for Further Development of Student Chapters and Student Membership" was adopted.

4. A revision of the "Rules of Government and Operation of Professional Engineers in Private Practice" was adopted.

5. A resolution was passed in opposition to the Environmental Protection Agency proposal for "turn-key" projects involving the design and construction of waste treatment plants.

6. An action program was adopted to attain engineering's objectives in the private pension plan field.

7. The following amendments to the Constitution and Bylaws as recommended by the Enion Management Study were passed and will be presented to the membership for voting on the proposals:

A. That separate departments of Legislative and Govment Affairs; PEE; PEG; PEI; and PEPP be established (Bylaws 7 and 8).

B. Elevate Surveyor members to equal status with members (Art. V).

C. Membership of State Societies will establish uniform membership grades in accordance with NSPE membership requirements.

Amendments requiring further study or reconsideration and which will be presented again in July 1972 at the Denver Annual Meeting include:

D. The Board of Directors be limited to a maximum of four from any one State Society (Under this limitation Louisiana would lose one National Director).

Proposed amendments which failed included:

E. Reduction in dues to one half for members under 30 years of age.

8. Louisiana failed in its bid to host the 1975 NSPE Winter meeting, but New Orleans was selected for the 1973 Southwest Regional NSPE meeting. Sites selected for 1975 were Tucson, Arizona — Winter, and Minneapolis, Minnesota — Annual.

9. A resolution was passed to promote acceptance of NSPE Guidelines for Engineer-Management Relationships by Federal Agencies.

For further details please contact Frank M. Heroy, Jr. in Baton Rouge at the Louisiana Department of Highways.

COMPETITIVE BIDDING?

James L. Meyer, P.E., Chairman,
Professional Engineers in
Private Practice

"Separate, sealed bids for furnishing complete professional engineering design services including plans and specifications will be received by Newtown, U.S.A. until 7:00 p.m. in the Council chambers on June 21, 1972, at which time the bids will be opened and publicly read aloud. Qualified professional engineers may submit bids on forms obtained for such purpose from . . . ."

Sound familiar? Perhaps not, but strange as it may seem, the "impossibility" for such an ad has been made a possibility by recent developments.

On October 22, 1971, the American Society of Civil Engineers mailed a letter to all of its members announcing the unanimous action of its Board of Direction in eliminating completely Article 3 from the ASCE Code of Ethics. Article 3 provided that it was unethical for any member of the Society "to invite or submit price proposals under conditions that constitute price competition for professional services." As a result of the ASCE Board's action, that provision of the ASCE Code was removed and competitive bidding will no longer be considered an unethical question by the American Society of Civil Engineers.

The letter from Oscar Bray, President of ASCE, did not elaborate on the reasons for the actions, and noted only that the Board assumed "that you are all aware of the reasons for our taking this action. . . ." Well, many people were not aware of the reasons and the resulting furor has felt its way into all areas of the engineering community. The National Society of Professional Engineers is actively involved.

Before condemning ASCE for its action one should be aware of the motives and pressures behind the move. About half the Board of ASCE is made up of engineers in private practice. This fact, when considered with the unanimous vote of the ASCE Board of Direction, makes a significant point — that the consequences for not eliminating Article 3 were too severe to allow.

The U. S. Department of Justice has raised the question of whether a Professional Engineering Society may legally maintain an ethical standard which attempts to forbid competitive bidding. Official inquiry into the pertinent sections of the Codes of Ethics of ASCE and AIA was the trigger not only for the action of ASCE but also for a revision of Article 7 of the Code of Ethics of the Consulting Engineers Council (the equivalent of Article 3 of the ASCE Code).

The action by CEC followed its general counsel's recommendation, and Article 7 is now considered to be "permissive," or at least not prohibitive, in the consideration of competitive bidding for professional services. The CEC Board also voted to suspend the entire CEC "Guide for Professional Conduct" pending a comprehensive review of the document with legal counsel.

It is reported that AIA is also under attack, and while the architects have not taken official action as a result of the investigative demands, it is understood that legal procedures are underway which will protect architectural firms from litigation resulting from possible anti-trust violations. In addition, it should be recognized that AIA did amend its ethical standards several years ago to remove the direct language relative to bidding.

The case for the government extends from the Sherman Anti-Trust Law. Had ASCE failed to respond to the demands of the Justice Department they not only would have opened the Society to possible legal action but also to member firms individually. Member firms, if found guilty of violation of the Anti-Trust provisions, could be subject to treble damages on any negotiated contract awarded. The amount of the damages could be calculated at three times the savings which could be shown to have accrued had the contract been bid instead of negotiated.

And that's not all. Once the member firm was found guilty of a conspiracy to fix prices on one contract it would no longer be necessary for previous clients to prove that the firm was similarly guilty. The only additional proof needed would be to substantiate the amount of possible savings.

ASCE's choice was quite clear —either remove Article 3 from its Code or subject the Society and its individual members to litigation which could prove to be very expensive. Obviously, the Board of ASCE felt the risk too great and the consequences too severe.

What about the National Society of Professional Engineers? To date NSPE has not been served. There is a fundamental difference, however, between the NSPE Code and the Codes of ASCE and AIA. The NSPE Code is not enforced nationally—the enforcement being reserved by the member state societies. Therefore, the general counsel of NSPE considers that the De-

partment of Justice may move against one or more states instead of NSPE directly.

In a special report to the Board of Directors issued at the Winter meeting in Dallas, the Board of Ethical Review of NSPE addressed itself to the problem. This report is reproduced, in part:

"Some members have properly inquired of NSPE's intentions in this regard (NSPE's article on competitive bidding) and have been advised that NSPE has not received any communication to date from the Justice Department on this matter, nor has any action been taken by any element of the Society to ask the Board to consider amendment of the Code. After careful and extensive review of the legal, legislative, policy and practical aspects of this complex problem, the Board of Ethical Review suggests that the question is of such overwhelming long-range importance to NSPE and the entire engineering profession that it should receive the most careful scrutiny on a long-range study basis and that no action should be taken pending the results of such study. The study should contemplate the possibility of a suit, the costs of defense in time and money, the public relations considerations of a vigorous defense of the legality of the present Code provision and the consequences should the eventual result be against the Society. This matter should be approached with complete candor and with full participation by all elements and all members of the Society. The issue is too important and the consequences of the problem too serious to be considered on other than the basis of full understanding and discussion.

"Meanwhile, we suggest that pending the results of the study, NSPE maintain Section 11 (c) of the Code as written, that the efforts of the Society to oppose requests for competitive bidding for engineering services be continued and that the educational program to encourage members to decline to participate in competitive bidding situations for engineering services be continued without change. The issue, as we see it, deals with no less than the future rise or decline of the engineering profession in its paramount duty to serve the public health, safety and welfare."

It is apparent that NSPE intends to hold the line. The NSPE Code of Ethics has not been altered as a result of the ASCE action.

When and if NSPE must react, there are three possible alternatives:

1. Argue against the issue on the grounds that the Anti-Trust Law applies only to interstate commerce and, therefore, is not applicable.
2. Enactment of a law similar to House Resolution 157 (sometimes referred to as the Brook's Bill) which would prohibit competitive bidding for A/E services on Federal contracts. The present situation with regard to HR 157 is that it is "locked-up" in committee.
3. Amend state registration laws to include provisions for an authorized enforcement of a Code of Conduct for Registered Engineers. Such action by a state legislature has been shown to be an effective tool by which competitive bidding for professional services may be avoided.

This issue is by no means dead. It should be recognized that no one—ASCE, AIA, CEC, and certainly not NSPE—is recommending that the traditional method of awarding contracts for engineering services be changed. To the contrary, technical and professional societies are recommending that contracts continue to be awarded on a negotiated basis. Further, as long as Section 11 (c) of the NSPE Code remains the same, members of NSPE and the Louisiana Engineering Society are obligated to follow its provisions.

Compendium of Louisiana Laws Relating to Land Surveying

Published by the

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This publication was prepared in order to fulfill the need for a resume of the elementary laws governing Land Surveys and Surveying in Louisiana. It is not intended to provide enough information and education to make a lawyer out of a Land Surveyor, but to guide him in the field and the drafting room in making and plotting surveys for boundaries about which there are no serious questions.

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MUSICAL ENGINEERING

Joe Joy

Most professional engineers are called upon from time to time during their careers to do design work that is somewhat out of the ordinary. Rarely, however, is an engineer expected to be a musician, have a considerable knowledge of horticulture and be a dedicated lover of nature.

Yet these were the stringent requirements of the Brownell Foundation in choosing a project engineer for the Brownell Memorial Tower-Park Complex now nearing completion on the north shore of scenic Lake Palourde near Morgan City. Although the tower itself is completed, the park is closed to the public, pending completion of landscaping and other improvements. Opening date is expected in mid-spring.

To fulfill the above-mentioned requirements, the foundation chose a former resident of Morgan City, A. H. "Gus" Behling of Behling-Pollock Engineering Co. of Lafayette.

As a long-time resident of Morgan City, Behling was quite active in civic affairs, continually urging the Chamber of Commerce and other interested organizations to promote the area as a tourist attraction. Behling stressed the Morgan City area's natural beauty as its chief asset. His long struggle to this end is only now coming into being.

Also nearing completion in Morgan City, along with the tower-park complex, is Swamp Gardens, a city-sponsored project located adjacent to the Municipal Auditorium just off U.S. Highway 90. Both parks will feature flora and fauna native to South Louisiana. Behling, incidentally, is one of the few people in this area who can walk through South Louisiana woods and identify each fern, bush and tree by name.

Since several members of the Brownell Foundation were familiar with Behling's efforts toward tourist promotion and his hobby as an observer of nature, the engineer was considered for the position. When it was

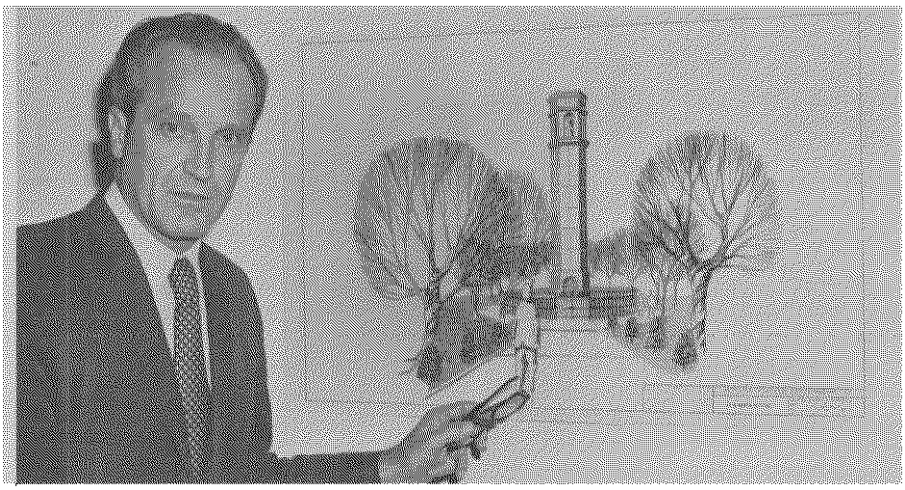
learned that Behling had been a professional musician for eight years before becoming an engineer, he became a sure thing for the job.

The foundation considered a knowledge of music very important since a genuine cast-bell carillon is in reality an enormous musical instrument. The Brownell tower contains 61 chromatically tuned bronze bells capable of playing complete musical compositions either by a specially trained musician or by prepunched tape. Most "bell towers" in the United States are of the "loud-speaker" variety, housing only a tape player linked to a public address system. The foundation, however, insisted on a top quality musical bell system.

This presented a problem that was to create others as construction went along. The rarity of cast bell systems made locating a foundry capable of doing the work somewhat difficult. Only a handful of bell foundries in Western Europe still do this type of work. Finally chosen, after a thorough investigation, was Petit & Fritsen, a 370-year-old foundry in Holland. There, last summer, each bell was handcast, tuned and polished. Such insistence on quality, of course, added to the cost. The bell system alone is valued in excess of $110,000, and it should also be noted that the system is rated as one of the finest in the world.

Cast-bell carillons are also unusually heavy. Unlike church bells, musical bells are much thicker and considerably larger. The Brownell bells range upwards from a diameter of 5″ and 18 pounds, to 5′ and 4,730 pounds. Total weight of all the bells is 24,140 pounds.

Heavy or not, the bells had to be raised to the top of the 106-foot tower. This presented a rather ticklish problem since musical bells have to be very carefully handled. To bang about a musical bell would be as unthinkable as belting the late Louis Armstrong's favorite trumpet with a hammer. Taking no chances, one of the largest mobile cranes on the Gulf Coast was called in, with the larger bells going up one by one. Engineers and contractors alike cast sighs of relief when the last of the bells rested in its niche on the specially built, galvanized steel frame.



A. H. "Gus" Behling points to a rendering of the Brownell Memorial Carillon.

Yet this was but a relatively minor engineering problem. The tower, with the enormous weight of the bells at the very top, is located within 200 feet of the wide-open expanse of Lake Palourde. This makes the structure a prime target for future hurricanes, three of which have slammed into the area in the last seven years. The solution: A "hell-for-stout" steel framework, weather-proof cast stone sheathing five inches thick and a foundation that is really "something else."

To make matters worse, the big tower rests in a jungle-like, swamp area, virtually devoid of rock strata anywhere near the surface. One contractor remarked that not even an Arizona prospector could find so much as a pebble on or below the surface of the 10-acre park site. Still the tower required, like the structure's frame, a foundation that is unusually strong. Calculations indicated a requirement of 12 16-inch tubular steel piling driven 104′ into the earth. This is only two feet shorter than the tower itself. A workman on this phase of the project said at the time that if a "breeze" (Cajun for hurricane) ever came along that was strong enough to knock down the tower, it wouldn't matter because "there wouldn't be nobody left in South Louisiana to hear the bells."

With the tower completed, work is continuing on the surrounding park. When completed, the park will include a wrought iron and masonry entrance gateway, parking area, horticultural improvements, enclosing fence, shelter house and bark-covered pathways winding about the site.

Incidentally, another stipulation concerning the park's development was that no tree or shrub was to be removed unless absolutely necessary. Therefore bulldozers were banned from the site and all clearing work was done by hand.

Behling-Pollock engineers are now at the point where they have solved — and survived — at least the major problems on the highly unusual project.

Asked for a comment on the matter, Behling just about said it all with one expression: "Whew!"

Then there was a big smile of pride.

CONCRETE CONSTRUCTION WITH LOUISIANA LIGHTWEIGHT AGGREGATE

By R. H. Kuhlman, P.E.,
Regional Engineer
Portland Cement Association
New Orleans, Louisiana

The "collapse" of the Metairie Road overpass on I-10 in New Orleans in the summer of 1971 stimulated unusual interest in lightweight concrete. While "collapse"—a word applied by the Louisiana press—was a bit overdramatic, indeed deterioration of the lightweight-concrete bridge deck did result. Holes in the deck as large as 3ft. x 6ft. forced closure of the bridge for repairs.

The news media for several weeks quoted various officials, political candidates, and other "authorities" who issued statements as to why lightweight concrete had been used in various structures, why it should not have been used, and why it should never be used. The confused montage of information, misinformation, and opinion resulting from this news coverage provided little basis for a rational evaluation of the place of lightweight concrete in construction in Louisiana.

Lightweight Concrete in Review

Over the years, the writer has been asked to inspect and advise upon several lightweight concrete projects which had been reported to give poor performance. Other projects, having fair to excellent performance, have also been observed. The conclusion has been drawn from these observations that difficulties have been experienced in Louisiana **only with lightweight concrete lacking in natural sand**: that is, those concrete mixes in which the "fine aggregate" was of a lightweight material. This conclusion is corroborated by most investigations which have been carried out in Louisiana by both private groups and public agencies.

Most applications of structural lightweight concrete made in Louisiana have been successful. So far as can be determined, no projects built using sand as the "fines" in lightweight concrete have given unsatisfactory performance. In this method of manufacturing lightweight structural concrete, now commonly used in the state, natural sand is combined with lightweight course aggregates.

The term "lightweight concrete" has broad connotations. Lightweight differs from normal concrete by (1) weight per cubic foot, and (2) compressive strength measured in pounds per cubic inch. Standard or normal concrete, sometimes called "hardrock concrete," usually weighs from 140 to 155-lbs. per cubic foot. For our discussion "lightweight" concrete may be classed as:

(1) Extra lightweight—low density, insulating concrete 20-50 lbs. per cu. ft.; strengths usually 100-500 psi but may reach 1,000 psi.

(2) Lightweight—moderate density, commonly used for fill, 50-90 lbs. per cu. ft., with strengths 1,000-1,500 psi.

(3) Structural lightweight — density of 90-120 lbs. per cu. ft. Strengths range from 2,500-10,000 psi as selected and specified to meet structural requirements.

Structural lightweight concrete generally uses manufactured lightweight coarse aggregate of expanded clay, shale, or slag and fine aggregate of either natural sand or manufactured lightweight aggregate. Expanded clay aggregate is the lightweight aggregate normally available in Louisiana. When both lightweight "fine and coarse" aggregates are used, local concrete unit weights of 90-95 pcf are obtained. The American Concrete Institute Building Code Requirements for Reinforced Concrete (ACI 318-71) terms this "all-lightweight concrete." When lightweight coarse aggregate and natural sand fine aggregate are used, local unit weights of about 110-115 pcf result. ACI 318-71 terms this concrete "sand-lightweight concrete." In all instances lightweight aggregates shall conform to "Specifications for Lightweight Aggregate for Structural Concrete" (ASTM C330). It should be noted that all-lightweight and sand-lightweight concretes have properties that differ from place to place depending upon the aggregates used in those locations.

Structural lightweight concrete provides the structural engineer with an additional structural design tool. For example, in designing a 715-ft. high building, one nationally eminent structural engineer stated that the lightest possible structure among standard-weight reinforced concrete, lightweight concrete, or steel framing was achieved through use of a lightweight concrete frame. The premium cost of lightweight from the ready mix supplier will be from $3 to $10 per cu. yd., but this will represent only between 2-5% of the in-place cost of a structural concrete frame. The reduction of up to 40% in dead-load may make economies in the foundation outweighing several times the additional cost of lightweight concrete. This is particularly true of areas having poor foundation conditions. Additionally, structural lightweight concrete in certain members can provide improved fire-resistance and fire ratings and also greater thermal insulation. A thorough economic evaluation of all factors will determine whether standard weight or lightweight concrete should be used.

Drying Shrinkage

Based upon observation of Louisiana structural concrete projects and upon review of much of the available literature on the subject, it is the writer's opinion that most problems may be attributed to high absorption

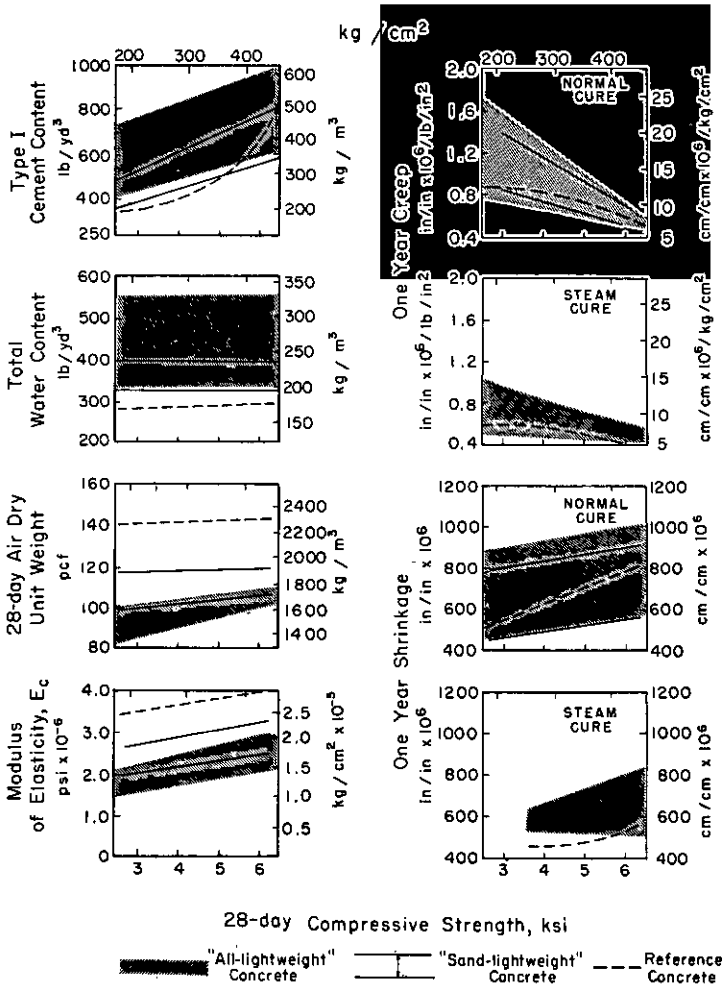


Fig. 4.4.1

Fig. 4.4.2

Fig. 4.5

Fig. 4.6

Fig. 4.8.1

Fig. 4.8.2

Fig. 4.9.1

Fig. 4.9.2

Fig. 4.4.1—Cement content

Fig. 4.4.2—Total water content

Fig. 4.5—28 day air-dry unit weight

Fig. 4.6—Modulus of elasticity

Fig. 4.8.1—Creep—Normally cured concrete

Fig. 4.8.2—Creep—Steam cured concrete

Fig. 4.9.1—Drying shrinkage—Normally cured concrete

Fig. 4.9.2—Drying shrinkage—Steam cured concrete

and resulting long-term drying shrinkage characteristics of all-lightweight concrete.

All concrete is subject to drying shrinkage. If shrinkage stresses exceed the tensile strength of the concrete, cracking results. Ultimate drying shrinkage of lightweight concrete made and cured at normal temperatures is generally greater than that of normal-weight concrete. Early drying shrinkage of lightweight concrete—up to 30 to 50 days—is quite similar to that of normal-weight concrete. But long-term drying shrinkage may be much greater than that of hard-rock concrete. It is felt that the long-term shrinkage and creep of all lightweight concrete was not given sufficient recognition in some structures designed in Louisiana during the 1950s and early 1960s. Shrinkage problems occurring in these projects, and subsequent laboratory investigations during the 1960s, have brought these long-term properties into proper focus.

All lightweight concretes usually have greater shrinkage than corresponding sand-lightweight concretes using the same coarse aggregate. A series of five Portland Cement Association Development Department Bulletins on "Replacement of Lightweight Fines with Natural Sand in Structural Concrete" was published from 1964 through 1968. These research papers considered the benefits of sand replacement of lightweight fines on many properties of the concrete.

While no Louisiana-produced lightweight aggregate was among the 14 tested and reported upon in these and earlier publications, it is believed that the range of properties encompasses those of Louisiana lightweight aggregates. Those results dealing with drying shrinkage are particularly interesting. Replacement of lightweight fines with sand reduced drying shrinkage significantly. Relative to shrinkage of normal-weight concrete, shrinkage was reduced for one lightweight coarse aggregate from 210% with lightweight fines to 140% with sand, and from 135% with lightweight

fines to 115% with sand for another lightweight coarse aggregate.

For all concrete, drying shrinkage is reduced as water in the mix is reduced. It is significant that in the sand replacement series, total water requirements decreased quite rapidly with increasing sand content. In one instance, the amount of water per cu. yd. was reduced from 518 lbs. to 393 lbs. as lightweight fines were replaced with sand. These weights compare with 291 lbs. required for sand and gravel concrete of the same slump and strength. Drying shrinkage measured at 2 years was reduced from $1{,}160 \times 10^{-6}$ in./in. to 780×10^{-6} in./in. as compared to 540×10^{-6} in./in. for hardrock concrete.

The lightweight concrete structures which have performed poorly in Louisiana are these which have experienced excessive drying shrinkage. Often shrinkage cracks were readily visible to the naked eye. Only projects using lightweight fines are included within this group. The use of lightweight fines from the expanded clay aggregate produced in Louisiana greatly increased water demand with a corresponding potential for drying shrinkage.

In the lightweight concrete decked bridges which have caused concern in Louisiana, problems which may have originated with shrinkage were apparently intensified by rather high and reversible stresses in the deck. Weathering, of course, caused further problems. AASHO specifications in force at the time of design and construction of lightweight concrete decks resulted in more flexible superstructures and accepted concrete of lesser quality than present specifications. This applied to bridges having hardrock concrete decks as well as those of lightweight.

Durability of bridge decks, mostly of hardrock concrete, was under investigation throughout the nation during this period. In Louisiana, bridges of sand-lightweight decks generally performed satisfactorily.

In at least two buildings, shear failure in the form of diagonal tension in beams in a continuous structure was experienced. Although somewhat lacking in theoretical support, it is easily rationalized that these failures, too, are related to excessive shrinkage. Shrinkage may have been accumulated through several bays of the structure by deflecting supporting columns until tensile strengths of the concrete and reinforcing steel are overcome and stresses are relieved by one wide diagonal tension crack.

In some instances, excessive deflections have been noted on structures built of lightweight concrete. The literature on concrete has long indicated greater deflections from lightweight concrete than from normal-weight. Deflections are inversely related to the modulus of elasticity of any material. The modulus of elasticity of concrete is a function of unit weight and compressive strength. ACI 318-71 outlines procedures for calculating both immediate and long-time deflections. Reductions for lightweight concrete in modulus of elasticity and effective moment of inertia indicate deflections for lightweight concrete which may range from 1.5-5 times those of normal-weight concrete of the same compressive strength. While under most conditions even fivefold deflections would not be objectionable, it is obvious that in situations of normally high deflections inattention to deflection calculations could create problems.

Other properties of lightweight concrete which will differ from those of normal-weight concrete of the same compressive strength are flexural strength or modulus of rupture, shear strength, and bar development (formerly termed "bond") capability. Each of these properties is treated by ACI 318-71 so that the designer may make proper allowance for these differences. Generally, strength properties, other than compressive strength, are taken as 0.85 and 0.75 times those of normal weight concrete for sand-lightweight and all-lightweight, respectively.

The performance of sand-lightweight concrete can be improved considerably by placing with sufficiently low slump and with the proper percentage of entrained air. Slump of the freshly mixed concrete should be as low as is consistent with satisfactory placement. It is important to remember that for equal levels of workability, the slump of air entrained lightweight concrete will be at least two inches lower than that of corresponding hardrock concrete. Hence, for most structural applications, slumps in the range of 2-3 inches are preferable. Placing and finishing at higher slumps (as 4-6) will lower the quality of the lightweight concrete. The level of entrained air, measured by the volumetric method, should be 4-8% for ¾ inch maximum-sized aggregate.

As performance history of structural lightweight concrete in Louisiana has grown, it has become increasingly evident that poor performance has been confined to those projects built of all-lightweight concrete. Re-evaluation of existing research in light of local performance reinforces the conclusion that all-lightweight concrete, produced of Louisiana manufactured expanded clay aggregate should be used as a structural material only after rigorous structural analysis and with proper consideration of long-time properties of the material. Close field control of concrete construction should be exercised, with particular attention given to control of both absorbed and mixing water.

Similarly, as knowledge of lightweight concrete has expanded, both locally and in refinement of design processes as reflected by ACI 318-71, it has become more evident that sand-lightweight concrete is a valuable and reliable product. While its properties differ somewhat from those of hardrock concrete, those properties have become well-defined, and adequate design provisions permit any qualified designer to use it with confidence.

OPINIONS OF THE COMMITTEE ON ETHICS AND PROFESSIONAL CONDUCT

Reported by Leonidas L. Denson, Chairman

Facts:

John Doe, a registered professional engineer in Louisiana and member of the Louisiana Engineering Society and of the National Society of Professional Engineers, placed the following classified advertisement in the "General Services" column of a newspaper within the state:

> Mechanical design and maintenance engineer seeks clients needing drawings, estimates, reports or technical assistance with equipment maintenance or construction problem. Reasonable rates. Small projects welcome. . . . .

Question:

Is the advertising by John Doe in conflict with the Code of Ethics?

References:

Code of Ethics—Section 3—"The Engineer will not advertise his work or merit in a self-laudatory manner, and will avoid all conduct or practice likely to discredit or unfavorably reflect upon the dignity or honor of the profession. "a.—Circumspect advertising may be properly employed by the Engineer to announce his practice and availability under the following conditions:

"(1) Professional cards in recognized, dignified publications, and listings in rosters or directories published by responsible organizations are acceptable forms, provided that the cards or listings are consistent in size and content, not in excess of one-quarter page, and are in a section of the publication regularly devoted to such professional cards. Information given must be restricted to firm name, address, telephone number, names of principal participants, and the fields of practice in which the firm is qualified. A dignified symbol of art work representative of the firm's practice may be used.

"(2) Identification of the firm name, address and telephone number on vehicles and equipment together with services related thereto.

"(3) Brochures and other factual representations of experience, facilities, personnel and capacity to render service, providing they are not misleading with respect to the Engineer's direct participation in the projects described.

"(4) A statement of his name or the name of his firm and statement of his type of service may be posted on projects for which he renders services."

Discussion:

The committee was in accord that the display of classified advertising represented a violation of the Code of Ethics by John Doe.

Conclusion:

Engineer Doe's activities, as described, are in conflict with the Code of Ethics, and are therefore unethical.

Note: This opinion is based on data submitted to the Committee on Ethics and Professional Conduct and does not necessarily represent all of the pertinent facts when applied to a specific case. This opinion is for educational purposes only, and should not be construed as expressing any opinion on the ethics of specific individuals.

PEERS

(NSPE's Professional Engineers Employment Referral Service)

For Members

NSPE members and members of other engineering societies participating in the various NSPE service agreements are eligible for the National Society's Professional Engineers Employment Referral Service (PEERS). Full details on the program may be obtained from NSPE-PEERS, 2029 K Street, N.W., Washington, D.C. 20006.

All members, as defined above, who have been or expect to be (within 60 days) victims of current engineering layoffs can participate in the program. NSPE forwards short-form resumes of engineers to a listing of firms that employ engineers. If a firm has an interest in any of the individuals on these resumes, it will contact NSPE.

Data obtained from the short-form resumes below are sent to nearly 1000 potential employers. Job candidates are identified to the firms only by coded numbers. Do not send attachments or supporting documents of any kind with the coupons. The PEERS program is a development of the PEI practice section of NSPE.

For Employers

Employers of engineers are requested to utilize the service. It is free for the employer and the engineer. PEERS will introduce you to as many applicants as possible to meet the qualifications you deem necessary for the position or positions you seek to fill. Write to NSPE-PEERS if you would like to receive the current listings of available engineers.

PEERS Short-Form Resume

J

1. _____
Last Name First Name Middle Name

Street Address _____

City State Zip Telephone (include area code) _____

☐ NSPE member (Check Square) ☐ Liaison society participant _____ Name of society ☐ Unemployed State(s) registered: _____

Termination date of most recent employment _____

2. Education: _____
Degree Field College/University

Degree Field College/University

3. Engineering Specialty: _____

4. Engineering Experience: _____
Years/Months

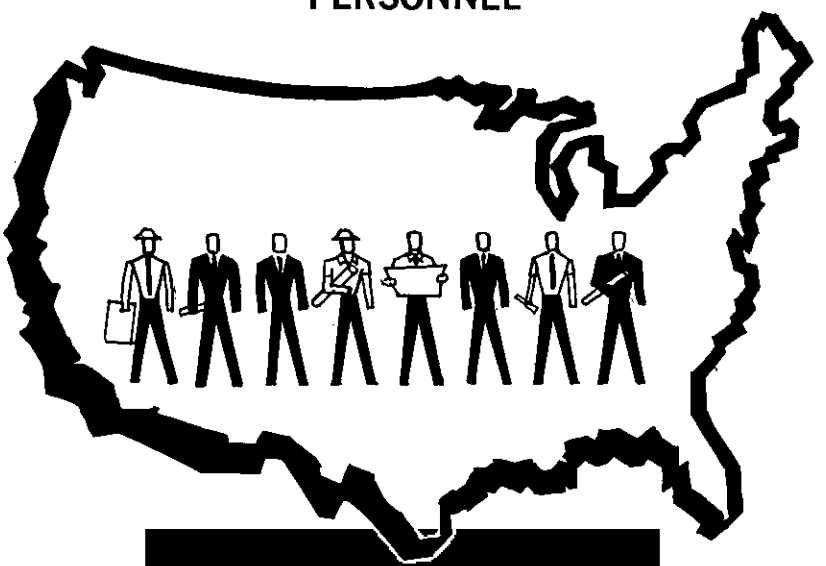
5. Salary Range Requested: $ _____ to $ _____

6. Most Recent Engineering Employment: _____
Company State

7. Relocation/company size/etc. comments.

Mail to NSPE, 2029 K St., N.W., Washington, D. C. 20006

NATIONWIDE SURVEY OF TECHNICAL PERSONNEL



The 1970 census as a basis for conducting a nationwide postcensal survey of a carefully selected sample of persons in engineering, scientific and technical occupations. This survey provides the opportunity to obtain, in much greater detail than is available in the regular census, data on occupational specialties, work activities, types of employment, formal education and supplementary training, unemployment and underemployment, mobility, and the relationships among these various characteristics.

Information on the nation's engineering and technical manpower is important for planning and evaluating many economic, educational, and scientific policies and programs in all sectors of the economy. In particular, there is a continuing concern about the nation's resources of high level manpower required to carry out the multitude of tasks dealing with research and development, national defense and security, space, health, education, economic growth, and environmental protection.

In order to accomplish the required development and administration of these programs, timely data on the demand, supply, utilization, economic and social characteristics of engineers and scientific personnel are required. In general, however, such information as is available is neither comprehensive nor current enough to be of value, nor is the required data regularly obtainable within the boundaries of reasonable costs.

Once every ten years, however, the Census of Population provides an opportunity to obtain valuable information directly and efficiently from individuals employed in or educated in a variety of occupations and fields. The National Science Foundation has therefore asked the Bureau of Census to use the results of

Engineers Joint Council and the Engineers' Council for Professional Development, representing 43 major engineering societies, have established a committee to work closely with the NSF Division of Science Resources Studies in analyzing and interpreting the data on engineers derived from the survey. The Committee for Surveying the Engineering Profession, headed by Morris D. Hooven, includes engineers from all major disciplinary fields. Members have already worked with NSF in framing and field testing the questionnaires to be used in the 1972 postcensal survey.

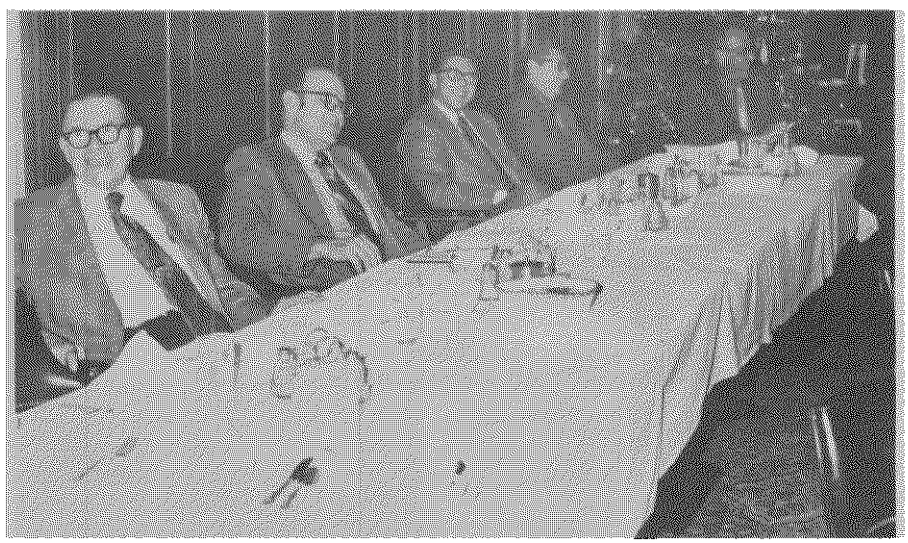
The Breau of the Census plans to start sending out questionnaires in late February or early March 1972. Broadly, the Postcensal Project will provide two main inputs into the information system available to manpower planners and administrators:

1. A nationwide picture of the characteristics of U.S. manpower resources employed or trained in scientific, engineering, and technical fields;
2. Insights into the career patterns of the nation's manpower resources as related to education and other demographic and personal characteristics for various groups.

This survey information will be unique in that it will represent the entire population of engineers, natural and social scientists, and technicians in the labor force for all sectors of the economy, at a specific point in time. It will therefore cover groups not reached in surveys of engineering society members, college alumni, employees of companies, or similar narrowly defined groups. Data for the postcensal survey will be particularly important now that the National Science Foundation has curtailed its support of the National Engineers Register. For the survey to be successful and yield truly representative information, all engineers who receive a questionnaire are urged to respond fully and promptly.

ENGINEWS

LES/MSPE joint meeting committee members discuss the tentative program. Seated left to right are Al Adoue, New Orleans, convention chairman; Bob Scholtes, MSPE president; Dr. Jack Thigpen, LES convention chairman. Standing, left, are MSPE convention chairman Bill McMullin; LES executive director Gerald Simmons; and Malcolm Hurstell, LES secretary-treasurer. Dr. Thigpen reports that plans for the joint meeting are being developed by the two neighboring societies. The second joint meeting will be held July 27, 28 and 29, 1972 in New Orleans at the new Marriott Hotel, located in downtown New Orleans and convenient to the Old French Quarter and points of interest. Mark your calendar now, for this important meeting. We will report periodically on developments.



The Lafayette Chapter of the Louisiana Engineering Society recently hosted a meeting with other engineering organizations in the area during which proposed changes to the engineer registration law were discussed. Shown here, from left, are IEEE president Charles Hargis; Jack Sheffield, chairman of the Society of Petroleum Engineers of AIME; LES Chapter president Ray Desormeaux; Jesse C. Odom; and Lee Hill. Regis Trumps of New Orleans discussed the proposed changes and answered questions about the proposals.

MAINTENANCE MANAGEMENT FOR THE PROCESS INDUSTRIES

March 29, 30, 31, 1972

Louisiana State University
Baton Rouge

This program is a seminar to acquaint all persons interested in maintenance management for the process industries with the newer methods and techniques for controlling maintenance. Lecturer will be Dr. Lawrence Mann, Jr.

Additional information:

Coordinator, Short Courses & Conferences
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Louisiana State University
Baton Rouge, Louisiana 70803
Phone 504 · 388-5276

Membership Contest Standings

Position	Chapter	Applications	Quota	% Quota
1	Bayou	11	10	110.000
2	Monroe	17	16	106.250
3	Lafayette	10	14	71.428
4	Baton Rouge	27	49	55.102
5	Lake Charles	5	13	38.461
6	Shreveport	9	24	37.500
7	New Orleans	31	84	36.904
8	Alexandria	3	14	21.428
	State Totals	113	224	50.446

William Conway of Modjeski and Masters (right), representing the engineering discipline on the Scotlandville By-Pass project, makes a presentation of the design team report to A. B. Ratcliff Jr., chief engineer of the Louisiana Department of Highways. Five disciplines are working in unison on the project to design multiple use of the highway right-of-way on the Scotlandville By-Pass section of Interstate I-110.

A delegation of Russians were in New Orleans in December and visited several construction sites in that city. Shown atop the Marriott Hotel are, from extreme left to right, Robert Greiner, general manager of the Marriott Hotel, center, F. Yakubovskiy, minister of construction, USSR; Hoyt W. Brown Jr., district manager of Combustion Engineering, Inc.; and extreme right, Ken Pardue, construction superintendent of the Marriott.

YOUNG ENGINEER

The Young Engineer's Committee of the National Society of Professional Engineers received 2 nominations for the Young Engineer of the Year award. According to the committee, all nominees were outstanding and the committee had a difficult time before selecting James A. Hackney of North Carolina.

David Huval with the Louisiana Department of Highways was the nominee of the Louisiana Engineering Society.

IN MEMORIAM

Samuel W. Elberson

Samuel W. Elberson of New Iberia passed away December 23, 1971, following a brief illness.

Mr. Elberson was a native of Kansas and had lived in New Iberia for the past 20 years. He was vice-president of the Central Louisiana Electric Co. when he retired in 1957.

From 1911 to 1913, Mr. Elberson was a special agent for the U. S. Department of Agriculture. He was employed by the A. M. Lockett Co. of New Orleans from 1913 to 1927.

He served as sales engineer and chief engineer for the Louisiana Public Utilities Co. of Lafayette from 1927 to 1938 and later became vice-president and general manager of the firm.

Mr. Elberson was a member of the Louisiana Engineering Society and the American Society of Refrigeration Engineers.

NEW MEMBERS

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Baton Rouge, La. 70806

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Baton Rouge, La. 70806

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Ruston, La. 71270

GUY L. LEEFE
Louisiana Tech
Dept. of Chemical Eng.
Ruston, La. 71270

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1648 Kenmore Ave.
Baton Rouge, La. 70808

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3500 Houma Blvd. #207
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2518 State St.
New Orleans, La. 70118

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4827 Bundy Rd.
New Orleans, La. 70127

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Kenner, La. 70062

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Mechanical Eng. Dept.
New Orleans, La. 70118

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New Orleans, La. 70125

FALCOLM E. HULL
3234 Burdette St.
New Orleans, La. 70125

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128 W. Livingston Place
Metairie, La. 70005

HERBERT A. SCHAEFFER III
401 20th St., Apt. 6
Gretna, La. 70053

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Abbeville, La. 70510

JACK M. HOLT, P.E.
112 Brentwood Blvd.
Lafayette, La. 70501

LARRY F. LaFLEUR
Rt. 2, Box 99
Opelousas, La. 70570

NEW REGISTRANTS

PROFESSIONAL ENGINEERS GRANTED REGISTRATION

JANUARY 11, 1972

By the Louisiana State Board of Registration for Professional Engineers and Land Surveyors

DOUGLAS H. HENDERSON
Baton Rouge, La.
Mechanical

PHILIP J. KNIEPER, JR.
Harahan, La.
Chemical

JAMES E. LOYLESS
Baton Rouge, La.
Chemical

JUDSON D. MARION, JR.
Corpus Christi, Texas
Petroleum

OTTO R. SCHWEITZER
Lafayette, La.
Chemical

PROFESSIONAL ENGINEERS GRANTED REGISTRATION

NOVEMBER 16, 1971

By the Louisiana State Board of Registration for Professional Engineers and Land Surveyors

BAX, G. J. R.
Stanger, Natal, S. Africa
Chemical

BIRDWELL, ROBERT H.
Houston, Texas
Petroleum

COHEN, AARON J.
Houston, Texas
Mechanical

DICKINSON, JAMES K.
Memphis, Tenn.
Civil

GEAN, WILLIAM E.
DeQuincy, La.
Petroleum

GERRETS, THOMAS F.
Gretna, La.
Mechanical

HAILE, EDMUND
Baltimore, Md.
Civil

HARRIS, JOHN J.
Metairie, La.
Mechanical

HICKS, W. KENNETH
Covington, La.
Civil

HOUSER, WILLIAM R.
Lake Charles, La.
Civil and Industrial

LOCASCIO, FRANK P. JR.
Slidell, La.
Electrical

LOVELL, ALBERT A. JR.
Baton Rouge, La.
Civil

McINNIS, MICHAEL P.
Fort Worth, Texas
Mechanical

MUTTALL, WILLIAM M.
Plaquemine, La.
Mechanical

ORPHAN, ANDREW J.
Houston, Texas
Civil

PARJUS, ANTONIO
New Orleans, La.
Civil

PARKER, JACK E.
Slidell, La.
Electrical

PASCHAL, OSCAR L.
Baton Rouge, La.
Mechanical

PECQUET, ASHTON J.
Baton Rouge, La.
Chemical

REMER, DONALD S.
Baton Rouge, La.
Chemical

ROGERS, THOMAS A. JR.
Sulphur, La.
Mechanical

SHOEMAKER, CHARLES E.
Mesquite, Texas
Electrical

SIEBKEN, JAMES B.
Omaha, Neb.
Civil

SPRINGFIELD, CHARLES E.
Houston, Texas
Industrial

SUMRALL, MITCHELL B. II
Monroe, La.
Mechanical

WEBB, JAMES E.
Baton Rouge, La.
Electrical

WELLS, LARRY R.
Pineville, La.
Electrical

PROFESSIONAL ENGINEERS GRANTED REGISTRATION

DECEMBER 7, 1971

By the Louisiana State Board of Registration for Professional Engineers and Land Surveyors

ADAMS, JACK L.
Houston, Texas
Civil

BERGEZ, RICHARD A.
New Orleans, La.
Mechanical

BLAIZE, ELMO N.
New Iberia, La.
Mechanical

BRADLEY, ALFRED L.
Anaheim, California
Civil

CHANG, PAUL T.
Wayne, New Jersey
Civil

GRACE, DENIS B.
New Orleans, La.
Civil

LAWTON, FRED W.
Baton Rouge, La.
Mechanical

NEEL, WALTER H. JR.
Metairie, La.
Civil

NOVICK, DAVID A.
Highland Park, Ill.
Civil

ROSE, ROBERT E.
Knoxville, Tenn.
Civil

TIDWELL, REX L. JR.
Houston, Texas
Electrical and Mechanical

WENGENROTH, REECE H.
Deerfield, Ill.
Civil

Minutes
LES Board

December 10, 1971

Louisiana Tech University **Ruston, Louisiana**

President Hogue called the meeting to order with the following board members present: Farrell W. Adams, P.E.; Ronald Boutté, P.E.; Dan Brown, P.E.; Hoyt W. Brown, Jr., P.E.; E. Raymond Desormeaux, P.E.; Marshall B. Ewing, P.E.; Frank R. Groves, P.E.; T. J. Hogue, Jr., P.E.; Malcolm Hurstell, P.E.; James L. Meyer, P.E.; Lamon L. Moody, P.E.; Waldemar S. Nelson, P.E.; Billy Rentrop, P.E.; Richard See, P.E.; A. J. Szabo, P.E.; J. J. Thigpen, P.E.; and Grover Trammell, P.E. Guests were: Dean Ben Bogard, P.E.; Charles F. Stubbs, P.E., and Gerald A. Simmons, Executive Secretary

Mr. Trammell, president of the Monroe chapter welcomed the Board to Louisiana Tech.

The minutes of the October 22, 1971 meeting were approved as forwarded to the Board with the following corrections:

(1) Include on page 3 the 5th paragraph the following letter: (attached)

(2) Page 3, 1st paragraph, 2nd sentence change "Rentrop" to "See."

(3) Page 4, 1st paragraph, change the word "voted" to "noted."

(4) Page 4, 2nd to last paragraph, change the word "status" to "Statute."

Motion by Mr. Szabo, seconded by Mr. Ewing, "that the minutes be accepted as corrected." Motion carried.

Financial Report—The financial report was given by Mr. Hurstell, secretary-treasurer for the months of October and November 1971. Receipts as of Nov. 30, 1971 were $36,667.11 with budgeted receipts of $38,940.00 for the same period. Total expenses year to date for the same period were $29,619.72 with budgeted expenses of $40,289.49. Mr. Hurstell noted that N.S.P.E. rebates were not paid for November and would reflect in next months financial statement under expenses.

Motion by Mr. Nelson, seconded by Dr. Thigpen, "that the financial report be accepted as presented." Motion carried.

Mr. Hurstell reported that the Finance Committee had met and reviewed a request to increase the budget of the functional sections to permit reimbursement of travel expenses of certain sections. The request was considered but no adjustment in the budget was recommended.

Mr. Hurstell stressed the need for advance notice and approval of expenses that may be incurred for which L.E.S. members expect to be reimbursed. Mr. Hogue suggested that the Board adopt a travel policy and requested Dr. Thigpen and Mr. Hurstell to draft a suggested "Travel Policy for L.E.S. Members" which could be submitted to the Board for its review and possible acceptance.

Section Reports

Professional Engineers in Education — Chairman Groves stated that the section had no formal report for the meeting.

Professional Engineers in Government—The P.E.G. Section did not report.

Professional Engineers in Industry—Mr. Hurstell submitted the attached report in the absence of Mr. Janssen, Chairman of the P.E.I. Section.

The activities of the P.E.I. Section have centered around providing information and speakers where requested for the meetings held around the State to discuss the proposed amendments to the Louisiana law for the registration of professional engineers. Generally speaking ,there appears to be a heavy majority in favor of Proposals No. 2 and 3, removing the exemptions for engineers in industry or in government and eliminating registration by virtue of long established practice. A variation of No. 3 that met with some favor was to continue to register by virtue of long established practice but to add a requirement for a second 8 hour examination based on "principles and practice" as contained in the Model Law.

There is considerable opposition to Proposal No. 1, elimination of registration by branches, although there were still a majority for it (90 to 67). Proposal No. 4, which would require a second 8 hour examination met with some opposition but also carried 110 to 40. Some of this opposition came from those who felt that the Registration Board presently had the power to require such an examination and that the law should be left flexible in this respect. There seemed to be general agreement that efforts should be made to upgrade our law to keep it on a level with those in other states.

Other action taken by the P.E.I. Section were the appointments of Henry L. Landry of Baton Rouge to the "Safety and Health Committee of the L.E.S." (Lamon Moody, Chairman) and of Sylvan Richard of Lafayette to the Student Summer Employment Committee (Jack Thigpen, Chairman). In addition, one P.E.I. from each local chapter has been appointed to Dr. Frank Groves' committee to promulgate information on engineering efforts to control pollution.

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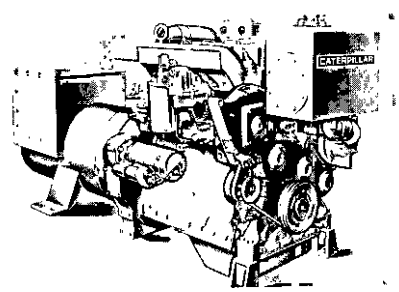

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Professional Engineers in Private Practice — Mr. Meyer, chairman of the PEPP Section, discussed briefly the recent change in Section 3 of the A.S.C.E. Code of Ethics. Mr. Meyer recommended that no action be taken by L.E.S. at this time. The matter will be discussed at the Winter Meeting of N.S.P.E. to be held in January 1972 in Dallas, Texas.

Mr. Meyer called the attention of the board recent action by the Environmental Protection Agency which, in effect, nullifies Act 171 of the Louisiana Legislature of 1970 regular session. Act 171 provided for federal grants on a matching basis for local municipalities to be used in construction of water pollution abatement facilities.

Motion by Mr. Szabo, seconded by Mr. Hoyt Brown, "that the rules be suspended and the matter be considered by the Board at this time." Motion carried.

Motion by Mr. Meyer, seconded by Mr. Szabo, "that the attached resolution be enacted and the proper authorities and legislators be contacted with a copy of the resolution, asking immediate reconsideration of the E.P.A. action." Motion carried.

RESOLUTION

WHEREAS the State of Louisiana, endeavoring to encourage the abatement of water pollution throughout the State, adopted Act 171 of 1970 ("Act 171"), which provides for state participation in water pollution control projects and thereby enabling municipalities and other political subdivisions within the state to be eligible for 50% Federal grant assistance under Section 8 of the Federal Water Pollution Control Act, and

WHEREAS the Environmental Protection Agency (EPA), on February 23, 1971, certified that Louisiana qualified for increased Federal participation under Public Law 660 as a result of Act 171, and

WHEREAS many municipalities and sewerage districts have proceeded with water pollution abatement projects, with financing arranged in anticipation of the increased grant, and have actually passed bond elections to provide the local share of the funds therefor, said local funds being insufficient if the grant approvals are reduced to the previous 30% eligibility levels which prevailed prior to the passage of Act 171, and

WHEREAS the Environmental Protection Agency has reversed its previous certification of Act 171 and has directed that municipalities and sewerage districts inside of Louisiana cannot obtain further payments or grants in excess of 30-33% of the eligible project cost, and

WHEREAS this action is not in the best interest of water pollution abatement and further will cause many projects to be set aside, and otherwise cause hardships to the citizens of the State of Louisiana, and

WHEREAS the action also adversely affects the confidence the people have in certifications and commitments from the Federal government, and is also embarrassing to reputable engineering firms which have recommended financial procedures which were consistent with the certification of Act 171,

NOW, THEREFORE, BE IT RESOLVED by the Board of Direction that the Environmental Protection Agency be requested to immediately reconsider its action of October 18, 1971, whereby the Louisiana State Department of Health was advised that further payments or grants in excess of 30-33% would not be considered, and re-confirm its previous certification that municipalities and sewerage districts in Louisiana are eligible for grant assistance under Section 8 of the Federal Water Pollution Control Act.

BE IT FURTHER RESOLVED that copies of this resolution be provided each of the following with a letter from the State President underscoring the concern of the Board of Direction in this matter.

Supplement to Education Study Report—Mr. Hurstell presented the report of the Education Study Team on privately financed engineering education in Louisiana. He noted that the report had been mailed to all board members prior to the meeting.

Mr. Trammell noted that Tulane was nationally recognized contrary to the report.

Mr. Hurstell stated he would object to any change of the report since it was and should remain in the original language of the study team.

Mr. Rentrop stated he thought the report was to be limited to one page to coincide with the comments in the original report, but that was not the case.

Motion by Mr. Nelson, seconded by Mr. Ewing, "that the report be accepted and published in the next issue of the LOUISIANA ENGINEER. Motion carried.

Report of L.E.S.-M.S.P.E. Joint Meeting — Dr. Thigpen, chairman of L.E.S. Annual meetings, reported that L.E.S. and M.S.P.E. representatives met Nov. 15th in Baton Rouge and set the dates of July 27, 28 and 29, 1972 for the joint annual meeting of the two societies. The meeting will be held at the Marriott Hotel in New Orleans. It was agreed that the same general meeting format used last year will be followed again this coming year. L.E.S. will host the meeting and work with M.S.P.E. on the program. M.S.P.E. will assist and be responsible for sale of exhibits with L.E.S. The sale of exhibits will begin in January of 1972.

Report of Spring Meeting Committee—Dr. Thigpen reported that he met with the committee in Lafayette. Jessie Odom was appointed meeting chairman. Dr. Thigpen reviewed the program outline. The meeting will be held March 3 and 4, 1972 at the Rowntowner Motel in Lafayette. Dr. Thigpen announced that A.S.E.E. would be invited to join L.E.S. for the meeting. They had been contacted and expressed a desire to be in attendance. The Lafayette chapter is arranging a crawfish boil Friday evening, March 3rd.

Discussion of Salary Study Report—Mr. Hurstell, chairman of the Salary Study, reported that the committee had met and discussed reaction to the Salary Study as published in the LOUISIANA ENGINEER. The committee recommended to the Board, modification of the report.

Motion by Mr. Hurstell, seconded by Mr. See, "that the report be modified as follows:

"We recommend the deletion of certain paragraphs in the October 1971 LOUISIANA ENGINEER beginning with paragraph 5 of page 7 'At the present time,' through section 'd,' ending on page 9.

"We further recommend that the following paragraph be substituted in lieu of the above:

"At the present time, some of the Louisiana Department of Highways Construction projects are designed by consulting firms. The overall effect of the L.D.H. in house engineering capabilities as related to income benefits and growth potential for engineers in the department, should be given further study by the department. It is recommended that the Louisiana Engineering Society offer assistance to the L.D.H. to achieve this objective."

Motion carried.

Request of A.I.Ch.E. for Mailing List—A request from the A.I.Ch.E. for a set of mailing labels from L.E.S. was discussed. The labels were requested in order to furnish L.E.S. members with information of an announcement of a course to be conducted by A.I.Ch.E. in Dallas.

Motion by Mr. Nelson, seconded by Dr. Thigpen, "that the L.E.S. mailing list be furnished A.I.Ch.E. at no cost to the Society." Motion carried.

T.S.P.E. Resolutions—Mr. Hogue read a letter from the T.S.P.E. requesting support of two resolutions to be considered at the N.S.P.E. Winter Meeting.

Resolution No. 1 called for support of registration of engineers under state statutes as the only means of registration.

Motion by Mr. Nelson, seconded by Mr. Trammell, "that L.E.S. support the Texas Society of Professional Engineers resolution attached to the minutes." Motion carried.

RESOLUTION

WHEREAS, the Texas Society of Professional Engineers was organized in 1936 by a group of persons dedicated to the engineering profession; and

WHEREAS, the Preamble of the Constitution of the Texas Society of Professional Engineers states, among other things, "To advance the welfare of the Engineering Profession by the establishment and observance of high ethical standards of conduct and through sponsorship of the creation and enforcement of adequate licensing laws and practice acts; . . . to place the control of engineering projects within the scope of such laws and acts: . . ."; and

WHEREAS, one of the first acts of the Texas Society of Professional Engineers was to give full support to the enactment of a registration law in the State of Texas; and

WHEREAS, the Texas Society of Professional Engineers has, since its beginning, supported the concept of registration for all engineers regardless of their area of practice; and

WHEREAS, the Texas Society of Professional Engineers is on record of opposing any action which diminishes the emphasis placed on registration under the Statutes of the State of Texas; and

WHEREAS, the proposal of the Professional Identity Committee of the National Society of Professional Engineers recommends an alternate approach to the entry into the category of "engineering Professional" by "accreditation" by the profession itself; and

WHEREAS, in the opinion of the Texas Society of Professional Engineers this alternate approach tends to confuse and diminish the effectiveness of the legally constituted registration laws throughout the nation; and

NOW, THEREFORE, BE IT RESOLVED, that the Texas Society of Professional Engineers reaffirm its strong support of registration under the state statutes as being the sole means of entering the category of "engineering professional"; and

BE IT FURTHER RESOLVED, that the Texas Society of Professional Engineers reject the alternate approach to the entry of the category of "engineering professional" as proposed by the Professional Identity Committee and adopted by the Board of Directors of the National Society of Professional Engineers; and

BE IT FURTHER RESOLVED, that the National Society of Professional Engineers be furnished a copy of this resolution so that they might be advised as to the attitude of the Texas Society of Professional Engineers on this matter.

Resolution No. 2 requested a change by N.S.P.E. in the manner of voting by the delegates.

Motion by Mr. Adams, seconded by Mr. Ewing "that L.E.S. endorse the T.S.P.E. resolution attached to the minutes." Motion carried.

RESOLUTION

Resolution of the Texas Society of Professional Engineers.

WHEREAS, roll call votes of the Board of Direction are conducted by polling the member state societies in alphabetical order followed by the Directors who are members of the Board by virtue of their national office; and

WHEREAS, many member state societies cast their votes in a unit; and

WHEREAS, the alphabetical order of roll call results in a disproportionate number of states with large numbers

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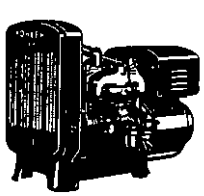

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of votes casting their ballots relatively early during the roll call, thereby creating a "band wagon" effect;

NOW, THEREFORE BE IT RESOLVED, that the Board of Directors declare it to be in the interest of the Society to poll the Board in an order which will reduce the undue influence of large state votes early in the voting procedure;

BE IT FURTHER RESOLVED, that the Board of Directors directs that all roll call votes shall be taken in ascending order of number of votes of each state; those states with one vote casting their votes first, those states with two votes casting their votes next in order, etc. until the state or states with the largest number of votes shall vote last except that the officers shall cast their votes individually after the states have voted.

PEPP Resolution—Motion by Mr. Meyer, seconded by Mr. Szabo, "that the Board adopt a policy statement regarding Board acceptance of committee reports and publishing of these reports in the LOUISIANA ENGINEER." Motion carried.

Mr. Hogue appointed a committee consisting of A. J. Szabo, Chairman; Richard See, Jim Meyer and Malcolm Hurstell to study this proposal and draft a suggested policy for review and possible acceptance by the Board.

Status of Prescriptive Period of Engineers—Mr. Simmons reported that there is a 10 year statute of limitations on engineering liability in Louisiana. He quoted R.S. 9:2772 of Louisiana Law. The Board suggested that portion of the law be mailed to the Board members.

Tax Exempt Status of L.E.S. Chapters—Mr. Hurstell read a letter from the L.E.S. auditor that stated L.E.S. chapters did not have tax exempt status under the provisions for non-profit organizations. The exempt status had not been applied for.

The board asked that Mr. Gonzales be contacted for suggestions to remedy the situation.

Report of Chapter Banner & Jewelry Committee—Mr. Adams displayed the new L.E.S. banner recently purchased. He encouraged each chapter to order a similar banner with the chapter name and identification. The banners are available through the L.E.S. office.

Mr. Adams discussed the progress made on the purchase of emblems. Motion by Mr. Adams, seconded by Mr. Hoyt Brown, "that the motion of the Board relative to this subject that was passed at the May 5, 1971, meeting be rescinded.

The State Office shall purchase 250 of the LES emblem sets of the design that was approved in the August 7, 1970 meeting. These sets shall be the 7/16" diameter emblems, **gold plated**, with clutch-pin back, a clutch for lapel wear, and a clutch with attached chain for tie tack wear, all in a box.

Each chapter shall pay **$2.50** each for the following minimum number of sets:

New Orleans	— 86	($215)	Monroe	— 15	($ 38)
Baton Rouge	— 55	($138)	Lafayette	— 15	($ 38)
Shreveport	— 23	($ 58)	Lake Charles	— 14	($ 35)
Alexandria	— 15	($ 38)	Bayou	— 10	($ 23)

Each chapter will offer for sale to its members the sets at a price not to exceed **$3.00**.

Each issue of the LOUISIANA ENGINEER in the future will carry an ad stating the availability of the emblems from the chapters and the State Office, with the price and wording to encourage the wearing of the emblem. While the present supply lasts, the ad will mention the old style emblems, as souvenirs, with a reduced price of $2.00 on a first come basis. Motion carried.

Mr. Adams asked the Board to consider updating the L.E.S. Seal. Motion by Mr. Adams, seconded by Mr. Szabo, "that the Corporate Seal and emblem of the society shall be the circle with the words "LOUISIANA ENGINEERING SOCIETY 1898" inscribed therein, in accordance with the drawing shown below. This emblem is not the same as the lapel emblem and does not replace it. The Corporate seal will be filed with the Secretary of State. There shall be a limit of $100.00 to take care of cost." Motion carried.

Report of Summer Employment Program—Dr. Thigpen, chairman of the committee, reported that the committee composed of himself, Sylvan Richard, Al Dunn, Brooks Ewing and Ray Storms met in Alexandria to discuss the proposed program.

The committee agreed to write to the chapters and functional sections and asked that they provide a list of companies or firms who could be contracted for possible summer jobs available to engineering students.

The committee will also use all information available in completing the list. The companies, firms or individuals listed would be contacted and engineering schools informed of available jobs.

The committee would prepare an application form for students, to be used in putting interested students in contact with interested employers.

The program will be such that L.E.S. puts a prospective employer in contact with a student interested in summer employment.

Motion by Dr. Thigpen, seconded by Mr. Ewing, "that the committee proceed in developing the program and the committee be allowed $150.00 for committee expenses." Motion carried.

Mr. Hoyt Brown reported to the Board on a recent meeting with the New Orleans Chamber of Commerce. He stated that L.S.U.N.O. is cooperating with Delgado as suggested in the Engineering Education Study Report. The Chamber of Commerce is most interested in the report and working with the schools of the area toward implementation.

The next meeting of the Board of Direction will be held Friday, January 21, 1972 at 3:00 p.m. in Baton Rouge, La.

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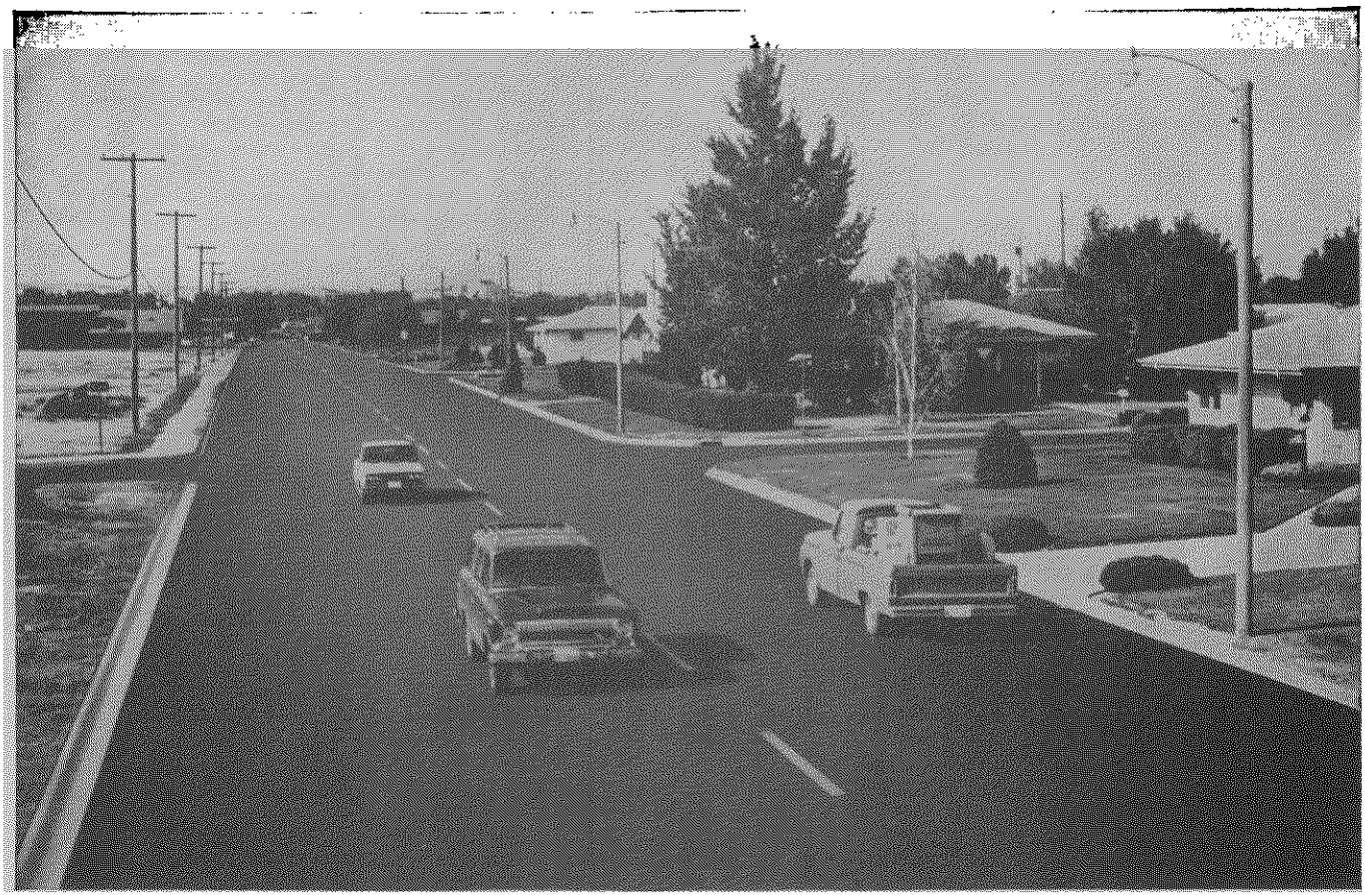

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TERRAIN: Flat.

CLIMATE: Severe: Summer (high) 97°F. Winter (low) −37°F.

TRAFFIC: 9500 VPD (1970). 14,155 VPD (1990 est.).

ROADWAY: Subgrade: A-7-6; A-4 (Estimated CBR = 3 to 8). (Flood plain).

ASPHALT BASE: 7½ inches dense-graded asphalt concrete placed in two lifts (4 inches and 3½ inches).

ASPHALT SURFACE: 2½ inches dense-graded asphalt concrete.

ASPHALT: 85-100 pen. for both base and surface.

DRAINAGE: Runoff controlled by curbs and gutters.

COMPACTION: Subgrade: 98% Max. Density (T-99).

Base and Surface: 98% Lab Density.

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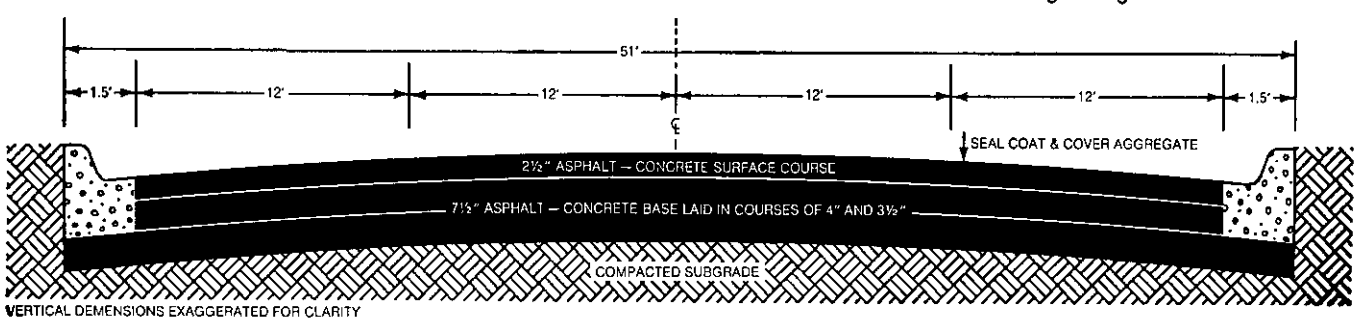

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LOUISIANA ENGINEER

Vol. 58 No. 2 April 1972

LES AWARDS

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SUMMER 1972

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Department of Chemical Engineering

May 15 — May 19
Rheology and Continuum Mechanics
Dr. S. C. Cowin
Department of Mechanical Engineering

May 22 — May 26
Industrial Power Systems
Prof. G. W. Webb
Department of Electrical Engineering

May 22 — May 26
Radiative Heat Transfer
Dr. R. G. Watts
Department of Mechanical Engineering

May 29 — June 2
Instrumentation for Engineers
Prof. J. A. Cronvich
Department of Electrical Engineering

May 29 — June 2
Plates
Prof. E. H. Harris
Department of Mechanical Engineering

May 29 — June 2
Vibrations
Dr. S. C. Cowin
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June 5 — June 9
Engineering Design Using the Digital Computer
Prof. C. A. Peyronnin
Department of Mechanical Engineering

June 5 — June 9
Conduction Heat Transfer
Dr. H. H. Sogin
Department of Mechanical Engineering

June 12 — June 16
Experimental Stress Analysis
Prof. E. H. Harris
Department of Mechanical Engineering

June 19 — June 23
Applied Probability, Decision Analysis, and Reliability
Dr. R. L. Drake
Department of Electrical Engineering

June 19 — June 23
Environmental Engineering and Ecology
Dr. S. E. Steimle
Department of Civil Engineering

July 10 — July 14
Introduction to Laser Physics and Applications
Dr. E. H. Christy
Radiation Laboratory

July 24 — July 28
Introduction to Fourier Optics, Holography and Optical Data Processing
Dr. E. H. Christy
Radiation Laboratory

July 31 — August 4
Radiation in Industry
Dir. J. J. Hidalgo
Radiation Laboratory

August 14 — August 18
Urban Planning
Dr. J. L. Niklaus
Department of Civil Engineering

August 16 — August 18
Applied Acoustics and Noise Control
Prof. C. J. Sperry
Department of Electrical Engineering

Early enrollment is advised. However, enrollments should be confirmed three weeks in advance of course starting date. Full fee must accompany application. The fee for the five day courses is $280, and the fee for the three day courses is $160. Checks should be made payable to Tulane University. The University reserves the right to cancel a short course for insufficient advance enrollments. Additional information regarding the Short Course program, or regarding any of the courses, may be obtained by calling Dr. Robert Bruce at Area Code 504 - 865-4401.

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Title: _____

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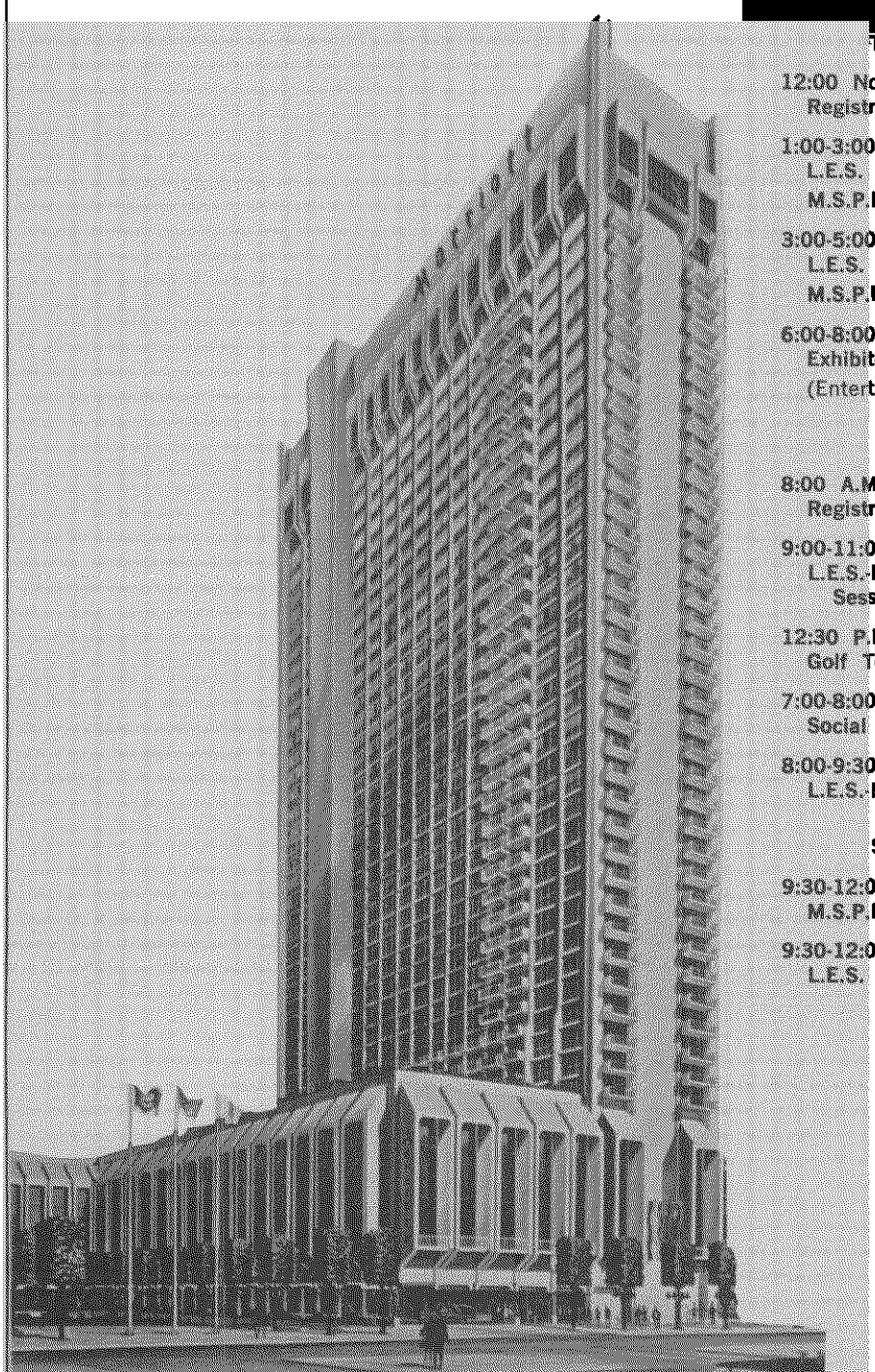
COURSE TITLE: _____

Please send off-campus housing list ☐

LES MPSE JOINT MEETING

PRELIMINARY PROGRAM

Dr. J. J. Thigpen, LES Annual Meetings Chairman, announces that the Second Annual Joint Meeting of the Louisiana Engineering Society and the Mississippi Society of Professional Engineers is scheduled July 27, 28, 29, 1972 at the Marriott Hotel in New Orleans.



THURSDAY, JULY 27

12:00 Noon
Registration

1:00-3:00 P.M.
L.E.S. Committee Meetings
M.S.P.E. Board of Directors Meeting

3:00-5:00 P.M.
L.E.S. Practice Section Meetings
M.S.P.E. Practice Section Meetings

6:00-8:00 P.M.
Exhibitors Social Period
(Entertainment in Exhibit Area)

FRIDAY, JULY 28

8:00 A.M. to 5:00 P.M.
Registration

9:00-11:00 A.M.
L.E.S.-M.S.P.E. General Business Session

12:30 P.M.
Golf Tournaments

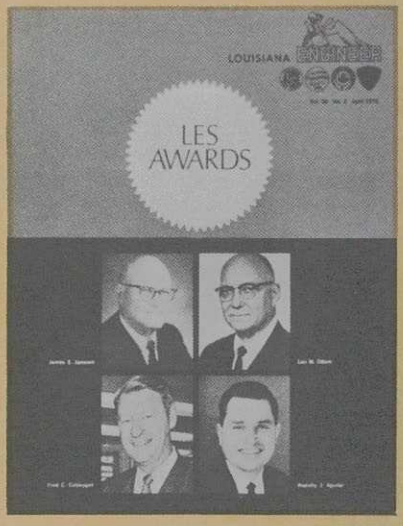
7:00-8:00 P.M.
Social Hour in Exhibit Area

8:00-9:30 P.M.
L.E.S.-M.S.P.E. Banquet

SATURDAY, JULY 29

9:30-12:00 Noon
M.S.P.E. General Business Session

9:30-12:00 Noon
L.E.S. Board of Direction Meeting



COVER

Each year, the Louisiana Engineering Society gives recognition to outstanding engineers in the state by presenting awards at the Spring Meeting. A detailed story begins on Page 8.

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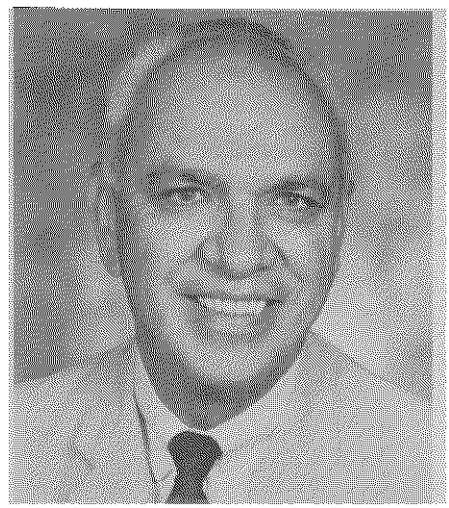
PRESIDENTIAL PRIVILEGE

Trudeau J. Hogue, Jr.
President
Louisiana Engineering Society



President's note: I am proud to relinquish my usual message in this issue of the LOUISIANA ENGINEER to Mrs. Irma McKee, Chairman of the Ladies Auxiliary Advisory Committee.

It is indeed a privilege to be given this opportunity to explain the function of the Ladies Auxiliary, its aims and objectives. Certainly, without the support of your organization, it could not be as successful as it is.

The Louisiana Engineering Society Ladies Auxiliary, composed of the wives and widows of engineers, has been in existence since 1932 when the New Orleans Chapter was founded. Other chapters have been constituted at intermittent intervals since then. With the recent addition of the Bayou Chapter, we boast of eight auxiliaries, a supporting organization for each of the eight L.E.S. chapters in the state. Each of these chapters operates within its own established policies, with the Ladies Auxiliary Advisory Committee serving as the state organization.

The main purpose to which each of our auxiliaries is dedicated is SERVICE—service to the engineering profession, to the state and local L.E.S. organizations, to our husbands. To promote the engineering profession, to encourage our husbands' professionalism, to exhibit pride and interest in the profession ourselves, thereby stimulating interest and understanding of the engineering profession within the community—these are our objectives.

Another prime goal of the auxiliaries is to furnish financial assistance usually in the form of scholarships and awards, to deserving engineering students enrolled in the various Louisiana universities and colleges. These budding young engineers will soon be the life-blood of your Society.

An enjoyable by-product of all of these lofty aims and objectives, but by no means of lesser importance, is the formation of lasting friendships that continue to be a source of lifetime enjoyment. Many of these flourish on the local level; some are cemented at the periodical state meetings.

Because we ladies are primarily dedicated to the support of you husbands, the support of your profession is a very simple assignment. The encouragement that you men give us, individually and collectively, is all we need to keep functioning. We like to think that the auxiliaries are helpful to you, so let us know if we can be of assistance to your organization in any way.

We wish for each of you continued success in your endeavors. And thank you for this rare privilege of addressing you!

Irma McKee, Chairman
Ladies Auxiliary Advisory Committee

LETTERS
TO THE PRESIDENT

Dear Mr. Hogue:

As you know, there has been some difference of opinion expressed regarding the participation of the School of Engineering at Tulane on a committee of the Louisiana Engineering Society that may be concerned with advising the Coordinating Council for Higher Education in Louisiana with regard to questions related to engineering education. I would like to take this opportunity to set forth my views as dean of the School of Engineering concerning Tulane's relationship to engineering education in the state and to the Coordinating Council for Higher Education through the Louisiana Engineering Society.

It has been suggested that Tulane should not participate in any such committee because it is a private school and also quite small, i.e., of negligible influence in engineering education in the state. I have engineering degree data for four years in my office, 1965, 1967, 1969, and 1970. From these data, it is found that in 1965, Tulane ranked third out of four institutions in Louisiana in the total number of engineering degrees granted during that year. In 1967, Tulane ranked third out of seven institutions in Louisiana granting engineering degrees, six being publicly-supported. In both 1969 and 1970, Tulane again ranked third among these seven institutions.

For these four years, Tulane ranked second in the total number of master's degrees awarded. During these same four years, LSU awarded 35 docorate degrees and Tulane awarded 30 doctorate degrees. I fail to understand why Tulane should be disregarded with respect to the production of engineering graduates in the state of Louisiana.

Moreover, Tulane has a unique program in environmental and sanitary engineering that is offered jointly by the Department of Civil Engineering in the School of Engineering and the Department of Environmental Health in the School of Public Health and Tropical Medicine. There are facilities available in engineering on the uptown campus, in public health in the downtown Medical Center, in the Environmental Engineering Laboratory at the Hebert Center at Belle Chasse, Louisiana, and in the Delta Regional Primate Center at Covington, Louisiana. Master's and doctor's degrees are offered in this program.

Also, the School of Engineering at Tulane is active in many areas of biomedical engineering. A number of engineering faculty members hold joint appointments in the School of Medicine and vice versa. The combined resources of the School of Medicine and the School of Engineering make for a broad range of opportunities for graduate students working for master's and doctor's degrees.

It has been implied that considerations of the state system should not involve Tulane because 60% of Tulane's engineering students come from out-of-state. In the fall of 1971, 39% came from out-of-state. However, if we follow this line of reasoning, the implication is clear that these students will not remain in Louisiana but will leave the state to go elsewhere. This would indicate, then, that it would be logical for national industries outside of the state of Louisiana to come to Tulane to recruit students. On the other hand, it would also be logical that these same industries should not go to the state supported engineering schools to recruit because the correlary implication is that these state schools are educating Louisiana engineering students to work in the state of Louisiana. Just so, the state supported engineering schools should be approached only by Louisiana-based industries for Louisiana boys to work in Louisiana. Of course, I do not agree with this logic.

The implication is made that because Tulane is a private institution it should have nothing to do with the state and the publicly-supported institutions. The correlary would also seem to be valid, then, that the state should have nothing to do with Tulane. It should not be involved in Tulane's affairs. However, this correlary does not describe the existing relationships.

For example, the laws of Louisiana are drawn up in such a way as to prevent the Dean of Engineering at Tulane University from serving as a member of the State Board of Registration for Professional Engineers and Land Surveyors. This is because the law provides that in the case of charges of malfeasance against Board members, these charges will be heard by a commission composed of the Chief Justice of the Supreme Court of the State, the Dean of Engineering at Tulane University, and the Dean of Engineering at LSU. This law also prevents the Dean of Engineering at LSU from serving on the registration board.

Again, the law of the state of Louisiana requires that the Governor of the state and the State Superintendent of Education be ex officio members of the Board of Administrators of the Tulane Educational Fund. Here we have two powerful political figures in the state of Louisiana on the Tulane Board where tremendous influence could be exerted.

Finally, it is the law of the state of Louisiana that Tulane University must make available each year, one full-tuition undergraduate scholarship to each of the 144 members of the State Legislature of Louisiana. For the current year, the potential obligation for such scholarship aid amounts to a total of $302,400 —a rather sizeable contribution to the state.

The Coordinating Council for Higher Education has recently published a Master Plan titled, "Toward Balanced Growth in Louisiana Posthigh School Education: Quantity and Quality." This document contains a number of recommendations that recognize that it is in the best educational interest of the state to consider the facilities and other educational resources of private institutions in the development and coordination of posthigh school education in Louisiana. Thus, the matter goes deeper than the participation of Tulane engineering faculty and alumni on LES committees that relate to the Coordinating Council, but in this matter I do believe that it is appropriate for these committees to be formed so as to be consistent with the spirit of the Council's Master Plan.

Sincerely,

LEE H. JOHNSON
Dean, School of Engineering
Tulane University

Dear Mr. Hogue:

I have learned from officials of the Environmental Protection Agency that the stalemate which has held up progress on our Louisiana sewer-water projects has now been broken. A letter, signed by our Louisiana Attorney General, containing language acceptable to the E.P.A. is on its way to Washington. Based on this fact, I understand that instructions have been issued to Washington and the Region to release Louisiana's funds. Official confirmation of this action is expected next week.

HALE BOGGS

Dear Mr. Hogue:

I am sending to you, herewith, copy of letter of February 17 which I have received from the Environmental Protection Agency in response to the request for consideration of the views of the Louisiana Engineering Society in connection with the entitlement of Louisiana to increased Federal grant percentages for sewage treatment projects under Section 8 of the Federal Water Pollution Control Act.

ALLEN J. ELLENDER

Dear Mr. Hogue:

Mr. Eugene T. Jensen, Deputy Assistant Administrator of the Environmental Protection Agency for Water Programs, has now responded to my request to him that EPA restore certification for 50-55% eligibility for federal assistance in water pollution control projects in Louisiana.

F. EDW. HEBERT

Dear Mr. Hogue:

The attached correspondence from the Environmental Protection Agency is in further reference to the inquiry I initiated at your request into Louisiana's entitlement to Federal grants under the Water Pollution Control Act.

JOHN R. RARICK

Dear Mr. Hogue:

Enclosed are copies of a number of letters and memoranda which indicate where the question of the Federal percentage of funds under Section 8 of the Federal Water Pollution Control Act now stands.

RUSSELL LONG

OPINIONS OF THE COMMITTEE ON ETHICS AND PROFESSIONAL CONDUCT

Reported by Leonidas L. Denson, Chairman

Facts:

The XYZ Manufacturing Corporation, a United States corporation with international properties, with general headquarters outside Louisiana, but with extensive production facilities in Louisiana, included among its project management one or more engineers who were members of the Louisiana Engineering Society. This corporation, through the office of its purchasing agent, forwarded to Louisiana consulting firms a request for proposals to provide professional engineering design services for expansion of a Louisiana industrial plant. The package included forms entitled Part A, "Proposal" and Part B, "Invitation to Bid."

Consulting Firm ABC returned the bid package and all attachments to the XYZ Corporation, expressing appreciation and interest in the project but refusing to submit a bid, and pointing out reasons that engineering selection should be made upon basis of experience and capability to perform the assignment.

Question:

Is procurement of engineering services in this matter by XYZ Corporation prohibited by the Code of Ethics? Was the action of Firm ABC proper in returning the bid package?

References:

Code of Ethics—Section 11, Paragraph 11.c—"He shall not solicit or submit engineering proposals on the basis of competitive bidding. Competitive bidding for professional engineering services is defined as the formal or informal submission, or receipt, of verbal or written estimates of cost or proposals in terms of dollars, man days of work required, percentage of construction cost, or any other measure of compensation whereby the prospective client may compare engineering services on a price basis prior to the time that one engineer, or one engineering organization, has been selected for negotiations. The disclosure of recommended fee schedules prepared by various engineering societies is not considered to constitute competitive bidding. An Engineer requested to submit a fee proposal or bid prior to the selection of an Engineer or firm subject to the negotiation of a satisfactory contract, shall attempt to have the procedure changed to conform to ethical practices, but if not successful he shall withdraw from consideration for the proposed work. These principles shall be applied by the Engineer in obtaining the services of other professionals."

Excerpts from N.S.P.E. Publication No. 1929, "The Dangers of Competitive Bidding for Professional Engineering Services in Industry," August 1967, include the following:

"Selecting an 'apparent' low bidder on the basis of price may cause you to overlook or minimize the all-important factors of basic engineering qualifications and ability to produce your requirements in an allotted time period.

"The actual cost of engineering services is usually quite small in comparison to the losses or increased costs hazarded by sketchy, incomplete plans, specifications, studies or reports which the engineering firm must produce if it is forced to operate on the limited funds available through a competitive bidding procedure.

"The consulting firm represents the client. Its services should not be less than the client itself would provide. If the fee is reduced to meet competitive figures, then these services will have to be reduced for economic reasons. The engineering firm must obtain a fair return for its services, the same as you do for your company. Reduced prices mean reduced services. You cannot afford this.

"Requesting competitive bids will remove from participation the more reputable and better-qualified engineering firms. Competitive bidding for engineering contracts is contrary to the ethical standards of all professional engineering organizations in which the principals of these firms hold membership. These standards are based on the sincere conviction that it is in the best interest of those whom the engineering profession serves. Reputable engineers will refuse to jeopardize their professional standing and to reduce the quality and adequacy of their services in order to meet price competition."

Discussion:

The documents contained in the bid package transmitted by XYZ Corporation made it clear that engineering services were being procured with competitive bidding being one determining factor.

This matter is similar to the facts of Case No. 60-2, reviewed by the National Society of Professional Engineers Board of Ethical Review and published in "Opinions of the Board of Ethical Review," Volume 1.

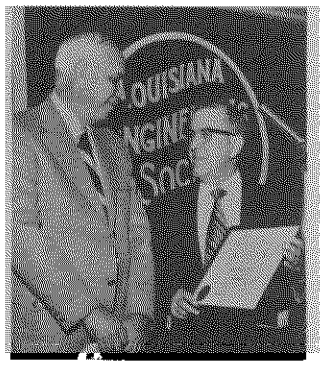
The influence of those members in project engineering management of the XYZ Corporation who were members of the Louisiana Engineering Society, as well as the action of Firm ABC was discussed.

Conclusion:

Members of the Louisiana Engineering Society with voice in project management of XYZ Corporation were in violation of the Code of Ethics if they supported requisition of professional engineering services on a competitive bid basis. The action of Firm ABC was proper in returning the bid package without an accompanying proposal. Had Firm ABC submitted a competitive bid in this instance, it would have been in violation of the Code of Ethics.

Note:

This opinion is based on data submitted to the Committee on Ethics and Professional Conduct and does not necessarily represent all of the pertinent facts when applied to a specific case. This opinion is for educational purposes only, and should not be construed as expressing any opinion on the ethics of specific individuals.



W. E. Douglas of Washington, D. C. (right), receives his Life Membership certificate from T. J. Hogue, Jr., LES President.

OUTSTANDING ENGINEERS RECOGNIZED BY LES

Leo M. Odom (right) receives a new award named in his honor from John Vogt, chairman of the Honors and Awards Committee.

Leo M. Odom

Leo M. Odom Award for Professional Services

The Leo M. Odom Professional Service Award is a new award, given for the first time in 1972. It will be awarded for distinguished service to the engineering profession in Louisiana by a registered professional engineer member of the Louisiana Engineering Society.

CITATION

Leo M. Odom is a native Louisianian who has been actively engaged in professional engineering practice since he received the B.S. degree in Civil Engineering from L.S.U. in 1927. Prior to that time he had completed three years of study in mechanical and electrical engineering at Louisiana Polytechnic Institute, and had worked as a draftsman.

Through the years he has been engaged in professional engineering work with the Louisiana Department of Highways, the Corps of Engineers, and the Louisiana Department of Public Works. He has been a principal in the consulting engineer firm of Pyburn and Odom since 1948. Much of his experience and his field of interest has been related to waterways, water resources, pipelines, navigation, drainage, flood control, pollution abatement, underwater stream crossings and offshore pipelines.

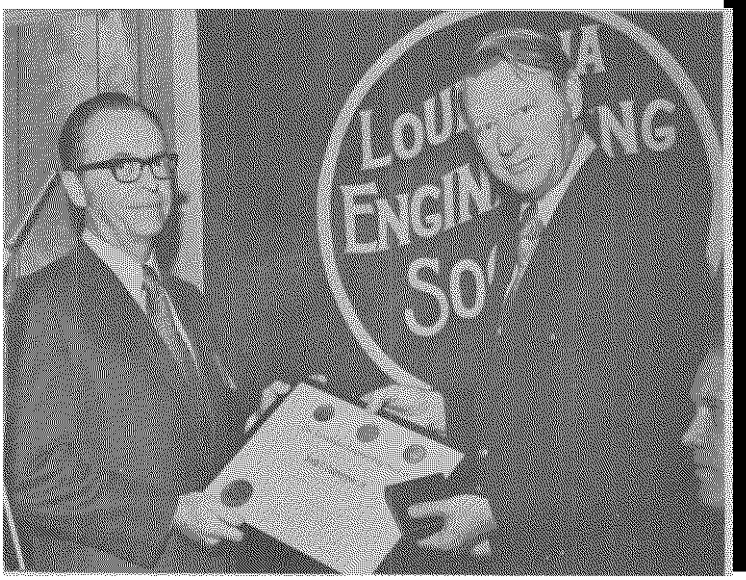
Mr. Odom has been a member of the Louisiana Engineering Society since 1942 and has served actively and well on numerous committees of the Society, including the legislative committee. He was instrumental in the organization of the strong private practice functional section and was its first chairman. He has been a member of the Board of Direction and served as President of the Society during the years 1968-69.

Mr. Odom has served as president of the Louisiana Section of the American Society of Civil Engineers and in many other positions of leadership, including contact member for the L.S.U. Student Chapter.

As a member of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors for more than 25 years, he has served as a director for the Southern District of the National Council of State Boards of Engineering Examiners. He received a distinguished certificate award from the Council.

As the L.E.S. representative of the Water Resources Study Commission and as a member of the East Baton Rouge Parish Water Conservation Commission, he has indicated his dedication to proper use of the water resources of the area.

The long period of service to the Louisiana Engineering Society and to the various technical organizations and professional groups in Louisiana, and the outstanding record and high standard of conduct which has been established by Mr. Leo M. Odom have been recognized by his contemporaries. Mr. Odom is named as the first recipient of the Professional Service Award given by the Louisiana Engineering Society in recognition of his outstanding leadership and service to the engineering profession in Louisiana and beyond.



Fred C. Culpepper (right) receives the A. B. Paterson Award from A. J. Szabo, LES Past President.

vanced to his present position of Executive Vice President and Resident Manager, Ford, Bacon & Davis Construction Corporation. He is also Senior Director of the Board of Directors of Ford, Bacon & Davis, Inc., New York; Ford, Bacon & Davis Construction Corporation, Monroe; Ford, Bacon & Davis, Texas; Ford, Bacon & Davis, Canada; and President and Chairman of the Board of Sealants International. He is Vice President & Director of Bayou Electric Co., Inc. and President and Director of Brazos Industrial Gas Co.

Fred C. Culpepper

A. B. Paterson Medal for an Engineer in Management

The A. B. Paterson Medal is awarded for distinguished service in management by an engineer.

CITATION

Fred C. Culpepper, Jr. is a native of Monroe and received his B.S. degree in Civil Engineering from Virginia Military Institute in 1940.

He joined Ford, Bacon & Davis Construction Corporation as a Field Engineer in 1940. Shortly after the United States entered World War II, he took a military leave of absence, serving with distinction with the 101st Airborne Infantry Division as a paratrooper.

After separation from the Armed Services, Mr. Culpepper returned to Ford, Bacon & Davis as Field Engineer and then to Project Manager on various construction projects throughout the country.

In 15 years he had risen from Field Engineer to become, at the age of 42, Vice President, the youngest person to obtain the executive status in the long history of Ford, Bacon & Davis. During this time, at the age of 36, he was Project Manager for the construction of the world's first operational coal slurry pipeline, preparation plant and booster stations, thus proving the feasibility of economically moving solids in a slurry for long distance.

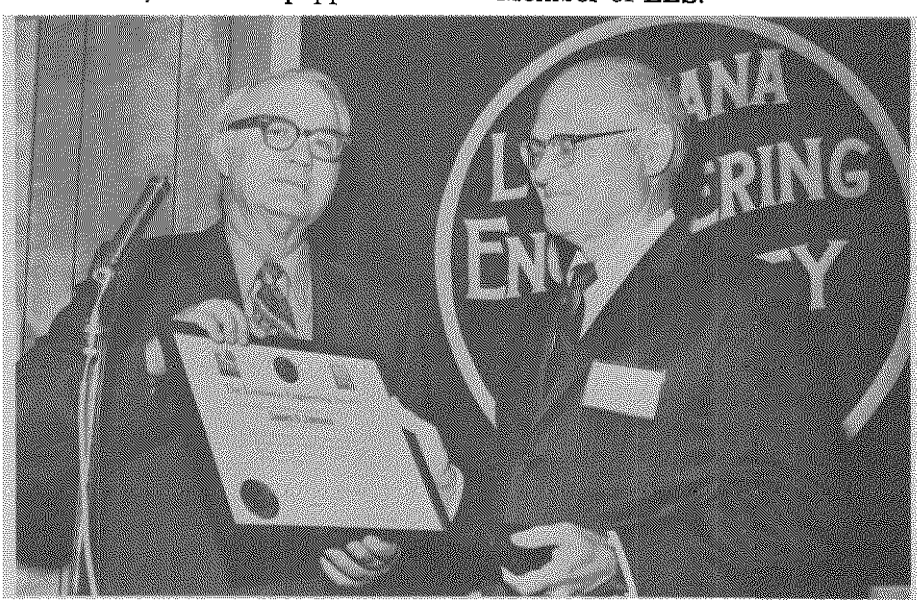
He recognized the need for an economical method of internally sealing gas distribution lines and was instrumental in forming the Sealants Department of Ford, Bacon & Davis in 1960.

In 1963, he was elected to the Board of Directors of Ford, Bacon & Davis Construction Corporation and of the parent company, Ford, Bacon & Davis, Inc. Adding to his duties, he was appointed Manager of Operating Divisions in Monroe. In 1968 he rose to Senior Vice President in charge of operations, Ford, Bacon & Davis Construction Corporation.

In 1970, Mr. Culpepper advanced to his present position of Executive Vice President and Resident Manager, Ford, Bacon & Davis Construction Corporation. He is also Senior Director of the Board of Directors of Ford, Bacon & Davis, Inc., New York; Ford, Bacon & Davis Construction Corporation, Monroe; Ford, Bacon & Davis, Texas; Ford, Bacon & Davis, Canada; and President and Chairman of the Board of Sealants International. He is Vice President & Director of Bayou Electric Co., Inc. and President and Director of Brazos Industrial Gas Co.

An energetic and outstanding leader in church and civic affairs, he is an active member and Elder of the First Presbyterian Church in Monroe. He served as President, United Givers Fund of Ouachita Parish in 1971. He is an Executive Committee Member, Junior Achievement of the Twin Cities, Inc.; Executive Committee Member, Ouachita Valley Council, Boy Scouts of America; member, Board of Directors, Monroe Chamber of Commerce; and Past President of the Bayou DeSiard Country Club.

He is a Past President of the Monroe Chapter, and Past Board Member of LES.



James S. Janssen (right) receives the Andrew M. Lockett Award from last year's winner Max Merrick.

James S. Janssen

Andrew M. Lockett Medal for Civic Activities

The Andrew M. Lockett medal is awarded for distinguished civic service by an engineer, in

the public interest, without compensation for those services.

CITATION

James S. Janssen was born in New Orleans and attended various schools there and in California, ultimately returning to attend Tulane University from which he graduated in 1931 as a Civil Engineer. In his early career, his work with the U.S. Corps of Engineers took him from New Orleans; however, he returned home and in 1936 began his career with New Orleans Public Service Inc. He is now Manager of the Gas and Transit Engineering Division of that company.

Mr. Janssen is a Registered Engineer and has always been actively associated with his professional societies. He is a Life Member of LES and served the Society in many positions including the Presidency in 1962 and presently is Chairman of the PEI Section. The National Society of Professional Engineers recently elected him PEI Vice Chairman of the Southwest Region for 1972 and 1973. He is a charter member of the Engineers Club of New Orleans and was its President in 1967.

Mr. Janssen is a long-time member of the New Orleans Chamber of Commerce, active on several important committees including the NASA-New Orleans Committee from 1961 to 1965 which worked to bring the "space-age" to New Orleans and assisted NASA in setting up there.

He has willingly given his time and efforts on behalf of the United Fund, the American Red Cross, and the Boy Scouts, serving the latter for many years as a fund raising speaker. He has held offices in many of the gas-trade organizations and associations. He is a member of the American Public Works Association and in 1950-51 was President of the Metropolitan New Orleans Chapter.

His most significant contribution to his community, however, are the fruits of his labors as a Member and President in 1968 and 1969, of the New Orleans City Park Board. Since being selected to serve on this board in 1958, Mr. Janssen has given selflessly of his energies to the duties of this Board which is responsible for the facilities and operations of the 1500 acre New Orleans City Park, one of the largest municipal parks in the United States.

Most distinguishing of Mr. Janssen's high qualifications for this award is the fact that while he pursued these civic endeavors he has not diminished in his high degree of service to his profession of engineering. It is truly the desire of the Society, as stated in the award criteria, "not only to recognize the recipient but also to inspire other engineers to take a greater part in the civic well-being of their communities, parishes and the State of Louisiana."

Rodolfo J. Aguilar (right) receives the the Award of Merit from last year's winner David Huval.

Rodolfo J. Aguilar

Louisiana Engineer Award of Merit

This award is given to an engineer not over 35 years of age who has demonstrated to a high degree capabilities in his chosen field, thereby indicating potential for further advancement and leadership as a professional engineer.

CITATION

Dr. Aguilar, Professor of Civil Engineering at Louisiana State University, is a native of Nicaragua. He attended the University of Santo Domingo in the Dominican Republic from 1953 to 1955 and received his B.S. in Architectural Engineering in 1958 from L.S.U., his M.S. in Civil Engineering in 1960 from L.S.U., his Bachelor's in Architecture from L.S.U. in 1961, and his Ph.D., in Civil Engineering from North Carolina State University in 1964.

He is a registered professional engineer and a registered architect in both Louisiana and the Republic of Nicaragua.

Dr. Aguilar's accomplishments as a student, engineer and consultant have been many and varied. He has been much in demand for delivering talks on his specialty on Systems Analysis and Design Optimization with the result that he has acquired a national reputation in this field.

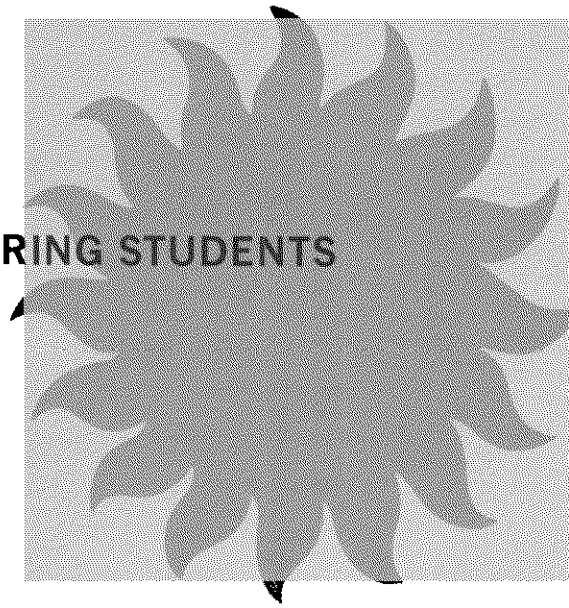
He received a first place design award from the American Institute of Architects in 1957, a Ford Foundation Fellowship and Grant to North Carolina State University in 1962, and the Halliburton Award for Excellence in teaching in 1967. He is listed in the "American Men of Science" and "Who's Who in the South and Southwest."

At Louisiana State University Dr. Aguilar served as special lecturer-assistant professor from 1961 to 1962, assistant professor from 1964 to 1966, associate professor from 1966 to 1969, and was named full professor in 1969.

He is a member of the Louisiana Engineering Society, the American Society of Civil Engineers, the American Society for Engineering Education and the Operations Research Society of America.

Dr. Aguilar is also president of ADH Systems, Inc. of Baton Rouge.

SUMMER EMPLOYMENT FOR ENGINEERING STUDENTS



This year, the Louisiana Engineering Society is initiating a program to assist engineering students in obtaining summer employment that will be meaningful to them in their preparation for an engineering career. The idea for this program originated with Jim Meyer, Chairman of the State Section of Professional Engineers in Private Practice. It was Jim's idea that not only would we be providing a service for engineering students but we would also introduce them to the Louisiana Engineering Society.

There is no substitute for experience, and summer jobs will give the students a chance to associate with engineers and to have the opportunity to observe and participate in engineering activities. In addition, the program should motivate the students as well as provide them with financial resources to help pay for their college education.

Jim's plan was enthusiastically received by President Hogue and, after approval of the State Board of Direction, he appointed a committee consisting of members of each of the four Functional Sections to implement the program. The first step was to prepare a list of firms in the state who might have summer jobs for engineering students. Chapter Presidents provided a list of firms in their chapter areas that they thought would be interested in this program, and Past President Johnny Vogt provided the list of firms which he contacted in connection with the Study of Engineering Education in Louisiana. Letters were mailed to almost 450 firms telling of the program and seeking information on summer jobs that would be available.

Although the number of jobs available to date is somewhat disappointing, the idea of the program was enthusiastically received by the firms contacted. The weak and uncertain economic situation, no doubt, had an adverse effect on the program. Also, as was known from the beginning, most of the large companies already have their own summer employment programs for engineering students. In early April, a listing, giving information about all of the jobs available at that time, was mailed to the Placement Offices, Deans, and Department Heads of the engineering schools in the state with the request that they make these opportunities known to their students. Supplements to the original list will be distributed as information on additional jobs is obtained.

Although still in its developing stages, this program appears to have great promise for the future and the support of everyone in the Society is solicited.

If you know of any summer jobs that are available for engineering students please send the information to Gerald A. Simmons, Executive Secretary, LES, P. O. Box 2683, Baton Rouge, La. 70821. The information needed is:

Firm _____

Address _____

Telephone No. _____

Person to Whom to Apply _____

Job Description _____

Job Location _____

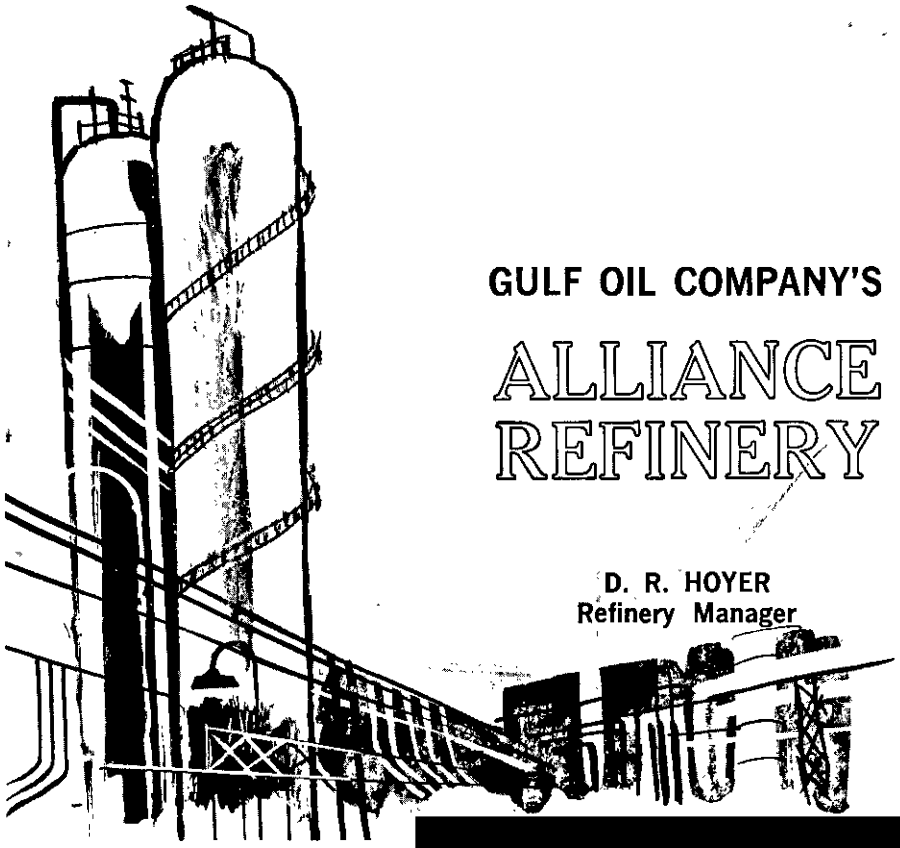
Number of Jobs Available _____

Educational Level Desired (Circle) Fr So Jr Sr Any Level

Discipline(s) Desired (Circle) ChE CE EE IE ME PE Any Discipline

Pay Scale _____

Additional Information _____



GULF OIL COMPANY'S

ALLIANCE REFINERY

D. R. HOYER
Refinery Manager

The Alliance Refinery of Gulf Oil Company-U.S. is located in Plaquemines Parish, Louisiana on the west bank of the Mississippi River some twenty miles south of New Orleans. Bounded on the east side by the river and on the west side by Louisiana State Highway 23, the 700-acre refinery tract was once part of the Alliance Plantation from which the refinery derives its name. Site preparation began in June, 1969 and refinery completion is anticipated in the latter part of 1971. The prime contractor for design and construction is Brown and Root, Inc. of Houston, Texas, who contracted for the work in July, 1968.

The crude oil supply for this refinery is Gulf's onshore and offshore South Louisiana wells which will be connected to the refinery by an 18" pipeline from the company's Bay Marchand Station. The refinery will also process extraneous natural gasoline and butanes which will arrive by barge.

Products will include motor gasolines, jet fuels, diesel fuel, home-heating oil, propane, benzene, carbon black feedstock, sulfur and petroleum coke. The prime fuels will move into Gulf's distribution system primarily through the Colonial Pipeline. Deliveries will be made through a 20" products pipeline from the refinery to an input station for the Colonial Pipeline at Collins, Mississippi.

In addition, there will be two docks on the river. One dock will be dedicated to barge movements of coke, while the other is designed to handle barges and vessels up to the 50,000 dwt size for water movements of LPG, benzene, carbon black feedstock, and prime fuels.

Process Design

Design of the refinery is based on the single-train concept sized to process 155,000 barrels per calendar day of crude. Major processing steps include: crude distillation, catalytic reforming, fluid catalytic cracking, alkylation, delayed coking, aromatics extraction, thermal hydrodealkylation, hydrogen treating, and sulfur recovery. These units are designed for integrated operations; however, a nominal amount of unfinished stock tankage will be provided to permit brief shutdowns of any unit for catalyst regeneration, etc.

Crude distillation will be accomplished in a two-stage atmospheric and vacuum unit designed to process 160,000 barrels per stream day of 32.5° API crude. The crude will be double-desalted and fractionated into an overhead stream, light furnace oil, heavy furnace oil, light gas oil, light vacuum gas oil, heavy vacuum gas oil, and vacuum tower bottoms. The vacuum tower is a dry vacuum system which uses no stripping steam and operates at 25 mm Hg in the flash zone.

The crude unit overhead stream will be debutanized and the pentanes and heavier naphtha, along with Coker naphtha, treated in a 41,000 BPSD Naphfiner, which is a Gulf process for hydrogen treating of naphthas. The treated naphtha will then be deisohexanized to provide a deisohexanizer overhead naphtha for gasoline blending.

Treated deisohexanized naphtha will be charged to a 37,500 BPSD catalytic reformer which is designed to utilize UOP's R-22 catalyst. The reformate product will be depentanized and split into light and heavy fractions.

The heavy reformate fraction will go to gasoline blending while the light reformate fraction will be charged to a 22,500 BPSD Sulfolane Unit for the extraction of benzene in a 4,600 BPSD Gulf Thermal Hydrodealkylation Unit. The xylenes will be used as a gasoline blending stock while the benzene will become a feedstock for Gulf's petrochemicals operations elsewhere.

The raffinate from the extraction process will be split into light and heavy fractions which will be used as blending stocks in jet fuels, diesel oil and motor gasoline.

The light furnace oil from the crude unit will be Gulfined, a Gulf process for the hydrogen treatment of middle distillates, and utilized in the production of jet fuels, diesel fuel and home-heating oil. The heavy furnace oil stream will be caustic treated prior to blending to distillate fuel.

The light gas oil and vacuum

gas oils from the crude unit, along with coking unit gas oil and hydrogenated cracked furnace oils, will be charged to a 72,000 BPSD fluid catalytic cracking unit. This unit is designed on the basis of technology developed at Gulf Research and Development Co. and Gulf's other refineries, and will utilize zeolitic catalyst and riser cracking.

Blending and Storage

Prime fuels will not be stored in a finished state in this refinery; rather, components will be stored and in-line blended to finished product specifications as they are being transferred to the pipeline or vessel.

In-line gasoline blending will be controlled by analyzers which will continuously monitor research octane number, motor octane number, vapor pressure and critical distillation points. Total tankage at the refinery is about 5,600,000 barrels. LPG will be stored in spheres and crude, gasolines and jet fuels will be stored in floating-roof tanks. Although some 25,000 steel and wood piles are being utilized in the refinery construction, all tanks except the spheres are unpiled and will be preloaded to accomplish settling prior to commissioning.

The design high-temperature riser cracking eliminates bed cracking and results in high gasoline-to-coke ratios, minimal recracking of gasoline and furnace oil, and high yields of olefins and aromatics. Use of multiple feed injection points will provide flexibility in feed stock and contact time. The unit is designed to achieve almost complete conversion of paraffins and naphthenes in single pass without cracking aromatics to coke. The regenerator will operate at high pressure and high velocity, and will have two-stage, high-efficiency cyclones. The depentanized gasoline product will be fractionated into light and heavy gasoline streams to provide gasoline blending flexibility.

Vacuum tower bottoms will be processed in a 16,000 BPSD Delayed Coking Unit which can produce some 840 tons per day of low-sulfur petroleum coke. A conveyor will transfer the coke from the Delayed Coker to barges at the coke barge dock.

Cracked furnace oil from the fluid catalytic cracking unit and the delayed coking unit will be processed by a 16,000 BPSD Gulfining Unit which will provide a distillate product for blending into diesel and home-heating fuel or for recycling to the fluid catalytic cracking unit for conversion to gasoline and lighter products.

The C_3, C_4, and C_5 olefins produced by the fluid catalytic cracking unit, along with the C_3 and C_4 olefins produced by the delayed coking unit, will be charged to an HF alkylation unit along with isobutane to produce some 28,400 BPSD of synthetic alkylate for use in gasoline production.

Two gas concentration units—one for saturate gas and a second for unsaturate gas—are provided with design propane recoveries of 90%.

Waste Water Treatment

The Alliance Refinery basic design philosophy for minimizing waste water volume and ensuring good quality effluent waste water is to reduce water usage to a bare minimum, incorporate segregation of waste collection systems and provide treating facilities for the segregated waste waters requiring treatment prior to disposal to the Mississippi River. Such treating facilities are the latest commercially proven, technical developments in the field.

Water usage will be drastically reduced by:

(1) using air cooling rather than water cooling wherever possible
(2) reusing water, e.g., wash water will be used for caustic dilution
(3) collecting and recycling clean steam condensate for boiler feedwater
(4) using a regenerative caustic treating process
(5) recirculating cooling water through a cooling tower
(6) demineralizing clarified Missisippi River water used as boiler feedwater to aid in reducing boiler blowdown requirements.

In-plant pretreatment, prior to waste disposal treatment, consists of (1) Sour Water Stripping, (2) Spent Caustic Scrubs Neutralization and separation of the "sprung" organic phase from the salt water and extraction of the phenols from the phenolic condensate.

Effluent segregation will be accomplished by separating the waste waters into the following systems:

System No.

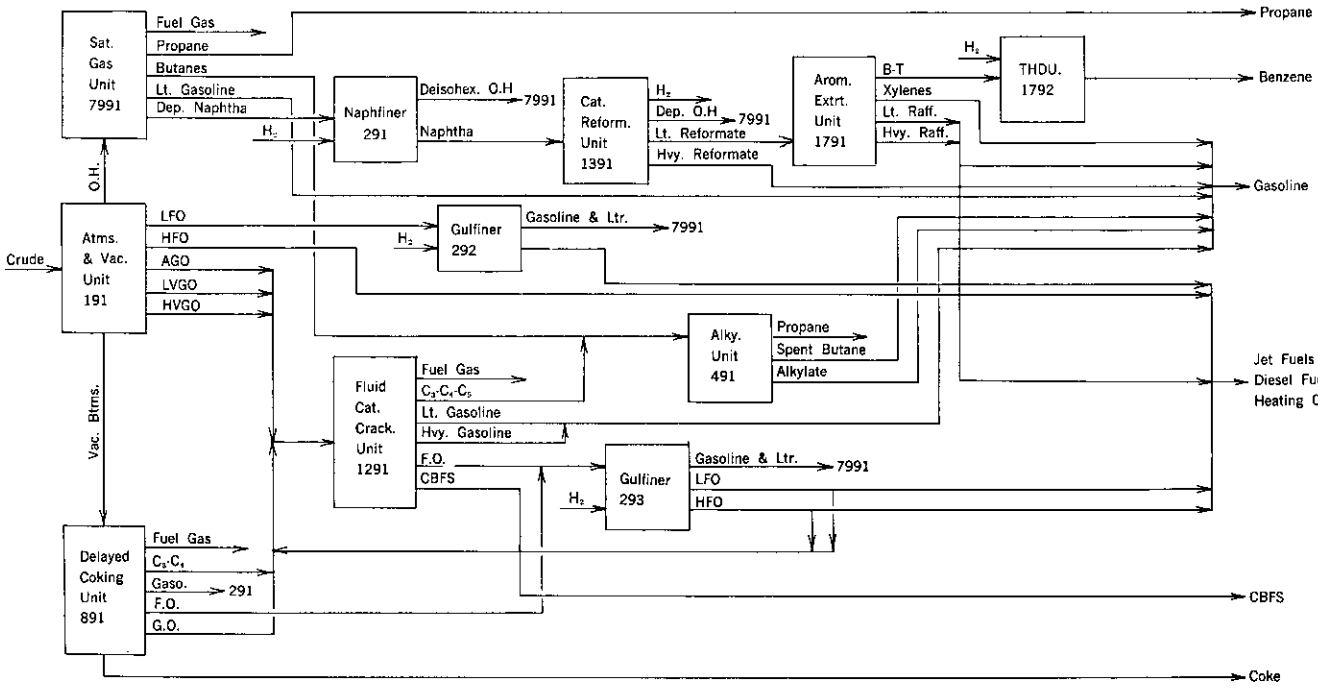
1 —High solids, non-oily waters (water treating plant and boiler blowdown)
2 —Low solids, non-oily water (roads and general area storm water)
3 —Oil wastes and process storm water
4 —Salt water wastes
5 —Sanitary wastes

It can be readily seen from the above that the practice of segregation will permit optimum waste water treatment and handling, mainly by preventing massive dilution of waters requiring treatment.

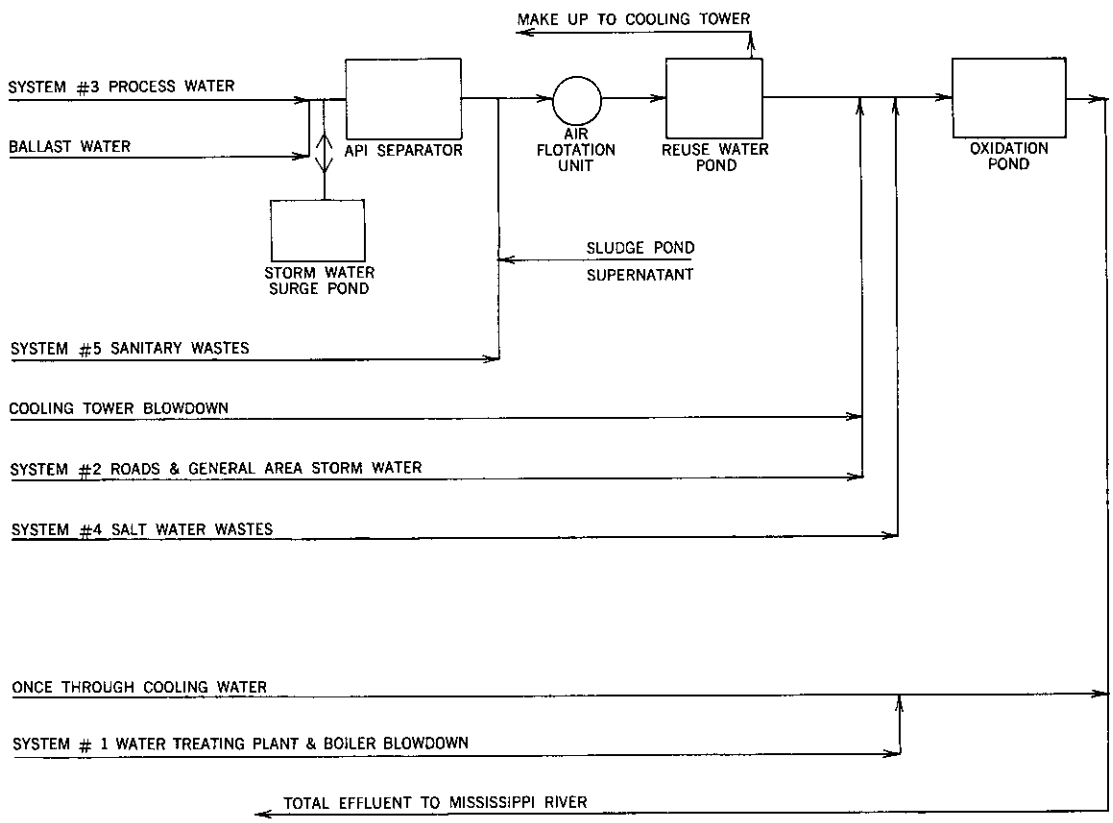
Clean streams such as System No. 1 and Once-Through Uncontaminated Water are returned directly to the Mississippi River. Once-through water is used for cooling only in vacuum services where contamination of the water is impossible even if leaks should occur. Storm water, System No. 2, is recovered outside the potentially oily areas, and collected in an oxidation pond to ensure that it is contaminant-free prior to disposal in the Mississippi River. However, at flow rates under 250 GPM, this material will be routed through elaborate waste treating facilities that were built primarily to process System No. 3, Oily Wastes and Process Area Storm Water.

In general, System No. 3, Oily Wastes and Process Storm Water, receives three stages of treatment. These treatment facilities consist of (1) a primary treat-

GULF OIL CO.-U.S.
ALLIANCE REFINERY
SIMPLIFIED FLOW DIAGRAM



GULF OIL CO.-U.S. ALLIANCE REFINERY
FLOW DIAGRAM OF WASTE WATER TREATING FACILITIES



ment three-bay API Separator, and a secondary treatment system consisting of (2) a recycle pressurization Air Flotation Unit and (3) a natural aerobic Oxidation Pond prior to disposal to the Mississippi River. System No. 5, Sanitary Wastes, is also processed through these facilities except that it is introduced at the outlet of the API Separator.

System No. 4, Salt Wastes, flow to a 3,000 Barrel Equalization Tank and then to the natural aerobic Oxidation Pond.

The attached flow diagram presents a simplified graphical picture of how the different systems and treatment facilities will operate and their interrelationship. Oily wastes and process storm water will flow through a three-bay API Separator. Each bay is capable of handling 1,000 GPM of waste water. The average anticipated flow through the API Separator will be about 1,050 GPM. Two bays will always be in operation while the third bay will be either available as a spare or will be undergoing maintenance. Each bay will be outfitted with trash rack, sludge sumps in the forebay and main separator bay, two adjustable slotted-pipe oil skimmers and a rotary-drum oil skimmer.

A Storm Water Surge Pond is connected upstream to the separator system and acts as an equalization pond. The efficiency of the API Separator is a function of steady flow and this is ensured by the Storm Surge Pond. During heavy rainfall, excessive water will build up in the Surge Pond and be worked off along with the process wastes at a maximum combined rate of 2,000 GPM. The bulk of the suspended soils and oil will be removed in the API Separator. The oil recovered from the three skimming devices in each bay will be reprocessed. Sludge will be periodically removed from the sludge sumps and placed into a Sludge Pond for solids settling and dewatering.

The API Separator Effluent will be comingled with the Sanitary Wastes, adjusted for pH as required and pumped to the Air Flotation Unit for secondary treatment. Ferric sulfate, as required, will be injected into this stream prior to its being processed in the Air Flotation Unit so as to promote coagulation and recovery of the residual oil. A recycle stream will be pressurized with air and introduced into the Air Flotation Unit along with the aqueous waste stream being treated. Float sludge and bottom sludge will be separated from the treated water and pumped to a sludge pond for dewatering the solids.

The Air Flotation aqueous effluent will then be routed to a Reuse Water Basin which will provide for equalization of the stream quality and flow rate and also result in some natural biological oxidation of this stream. The water from the Reuse Water Basin may be pumped as part of the make-up water to a 143,000 GPM Induced Draft Cross-Flow Cooling Tower. Blowdown from cooling towers will be routed to the natural aerobic Oxidation Pond.

Final treatment of Systems 2, 3, 4, and 5 is effected in the Oxidation Pond. This facility is a relatively shallow pond with a large surface area. Aerobic oxidation and photosynthesis will occur here by virtue of bacteria oxidizing biochemically the incoming waste waters and algae utilizing sunlight to produce oxygen in the water. This pond is also equipped with a floating skimmer to remove any oil that may be present due to accidents.

Besides providing for BOD, COD, and suspended solids reduction, this pond, by reason of its large holding volume, will also reduce sharp quality changes and maintain a uniformly good effluent water stream. This stream will combine with the water from System No. 1 and once-through water and flow to the Mississippi River.

Primary controls will be maintained at the various processes contributing aqueous wastes to the Waste Water Treating Facilities. Operators on the equipment producing the aqueous wastes will be thoroughly instructed and carefully supervised in good operational and housekeeping practices so as to reduce contamination and treating requirements of the aqueous wastes to a minimum.

The Waste Water Handling Facilities will employ competent operators who will attend and control these facilities on a 24-hour per day basis. The performance of these operators will also be supervised "around the clock."

These operators will make adjustments based on continuous records provided by on-stream analyzers on the Total Effluent Stream. Samples will also be collected for on-the-spot analysis by operators of the various streams being handled by the facilities. More intricate tests will be performed on these samples by the refinery laboratory. Samples will also be obtained of the Mississippi River Water upstream and downstream of the Alliance Refinery. Control tests will include temperature, pH, solids (suspended, total and settleable), chlorides, phenols, oil content, dissolved oxygen, COD, fluorides, tri and hexavalent chromium, and sulfides.

In addition to the operators and their supervisors these facilities will be inspected, surveyed and studied periodically by a qualified engineer who will have overall responsibility for ensuring their proper functioning.

Prior to, during, and after start-up of the Alliance Refinery, it is planned to locate Gulf Research and Development's mobile water conservation laboratory at the refinery site to aid in establishing optimum waste water treatment. This mobile laboratory will be attended by analytical and water conservation experts from Gulf's Research Laboratories.

Air Contaminants Emission

Gulf Oil Company's Alliance Refinery will exert all means practicable to avoid contamination of the atmosphere. The air pollution abatement measures described below have been designed to provide adequate safe-

(Continued on Page 20)

ANNUAL REPORT

OF THE LOUISIANA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS

The Board gave examinations in fundamental engineering subjects to 274 applicants on April 17, 1971 and to 268 applicants on December 4, 1971. These examinations were given at four locations in Louisiana: Louisiana Tech University in Ruston, Louisiana State University in Baton Rouge, University of Southwestern Louisiana in Lafayette and Tulane University in New Orleans.

Examinations in the branch areas of engineering and in land surveying for those persons who applied for registration on the basis of Experience plus Examination were given in New Orleans on March 20, 1971 and September 18, 1971.

In November 1971 Governor John J. McKeithen appointed Andrew M. Moore as a member of the Board to replace Eugene E. Taylor whose term of office had expired. Mr. Moore is a resident of Pineville, Louisiana and a graduate of the University of Southwestern Louisiana. He is Vice President in charge of engineering for Central Louisiana Electric Company, Inc. Mr. Moore is active in and has held and does hold office in many professional and community organizations. He is a Past President of Alexandria Chapter of the Louisiana Engineering Society.

Mr. Taylor had been a member of the Board since its cre-

PROFESSIONAL ENGINEER

Applicants considered	502
Applicants approved on the basis of:	
Graduation plus Experience	284
Long Established Practice	8
Reciprocity	155
Experience plus Examination	11
Applicants disapproved	33
Applications withdrawn	11

LAND SURVEYORS

Applicants considered	23
Applicants approved	13
Applicants disapproved	10
Applications withdrawn	0

The following is a tabulation of the total number of Professional Engineers, Land Surveyors and Professional Engineers (Public Employees) and Engineers-in-Training holding registration on December 31, 1971:

Professional Engineers	9314
Professional Engineers (Public Employees)	140
Land Surveyors	3685
Engineers-in-Training	1066

Below is a tabulation, by branches, of the Professional Engineers who were registered as of December 31, 1971:

Agricultural	125
Chemical	780
Civil	3630
Civil/Industrial	2
Electrical	1559
Industrial	19
Mechanical	2571
Mechanical/Industrial	60
Metallurgical	24
Mining	28
Petroleum	808
Petroleum/Industrial	1

ation in 1950. During this period he served with distinction and held every office including Chairman of the Board, 1970-1971.

At the 1971 Annual Meeting of the National Council of Engineering Examiners Mr. Roy T. Sessums was elected President-Elect. In August 1972 Mr. Sessums will become the second person from Louisiana to become President of the Council. Marcel Garsaud, a distinguished engineer from the state of Louisiana, was its first President.

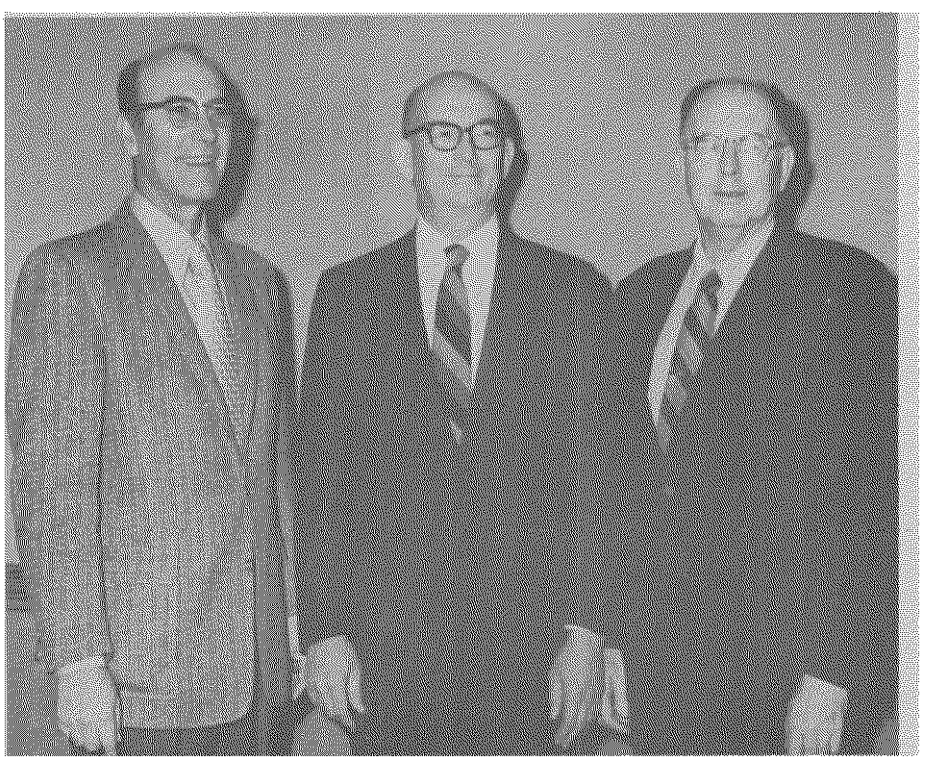
At its December 1971 meeting the Board took action to revoke the registration of one engineer and to suspend for a period of two years the registration of another under the provisions of Section 20 of Act 73 of 1950.

The District Courts of Louisiana acted in favor of the Board in violation suits against Pan American Engineering Corporation and Tom Chartier-Fire Insurance Engineer. The court ruled against the Board in a suit filed by a registered Mechanical Engineer after his application for registration as an Electrical Engineer was disapproved. The Court of Appeals upheld the decision of the lower court and instructed the Board to register the engineer as an Electrical Engineer on the basis of Long Established Practice.

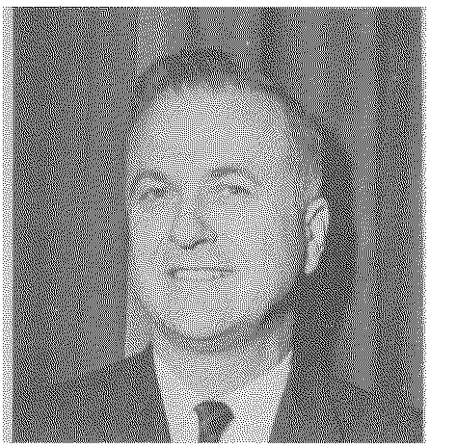
During 1971 the Board investigated 139 cases involving possible violations of the registration law with regard to the practice of engineering and land surveying. Of these, 109 were settled to the satisfaction of the Board. The balance are still under investigation.

The regulations of the Board governing firms that provide or offer to provide engineering and land surveying services were amended to control individual proprietorships as well as corporations and partnerships. These regulations are published in the YEARBOOK. All engineering and land surveying firms that are governed by these regulations are expected to submit, before July 1, 1972, a list of all principals and full-time employees who are registered in Louisiana.

The Board has recently published a booklet entitled: **"Compendium of Louisiana Laws Relating to Land Surveying."** Copies are available from the Board office at a cost of $2.00 per copy, postage paid.



Officers of the State Board of Registration are, from left, Andrew Moore, Secretary; Waldemar S. Nelson, Chairman; and Dean Ben Bogard, Vice Chairman.



Eugene E. Taylor Retires from Board

Eugene E. Taylor, manager of Concordia Electric Cooperative, Inc., recently retired from the Louisiana State Board of Registration for Professional Engineers and Land Surveyors, a position he held for 22 years.

In 1950, Taylor was appointed by the Governor to the initial Board and has since served on the Board in every official capacity. During the February meeting the other Board members presented him with a certificate of merit with wording as follows:

"As a testimonial of high esteem and admiration of the members of the State Board of Registration for Professional Engineers and Land Surveyors for, EUGENE E. TAYLOR, and in appreciation of his years of good and faithful service as a member of this Board, this certificate is presented.

"His role as councilor, advocate, and practitioner of high professional standards and his devoted service to the people of the State of Louisiana is hereby recognized by the affixture of the signatures of the officers of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors."

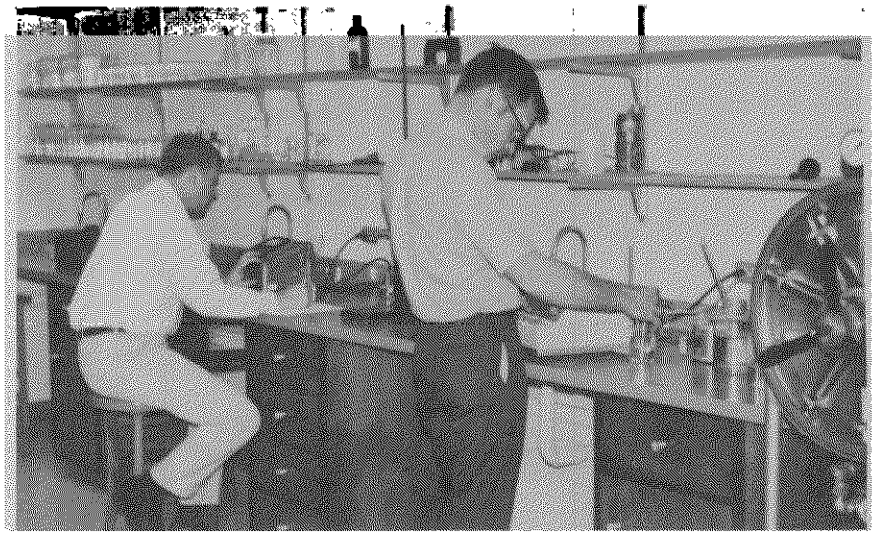
Taylor is a native of Arkansas and resident of Ferriday, Louisiana, since 1933, when he was graduated from Louisiana State University with a Bachelor of Science in Electrical Engineering.

From 1933 to 1948 he was Engineer and "Head of Lending" with the R.E.A. in Washington, D.C. This was a lending program designed to assist electric cooperatives in Wyoming, Colorado, Kansas and Nebraska.

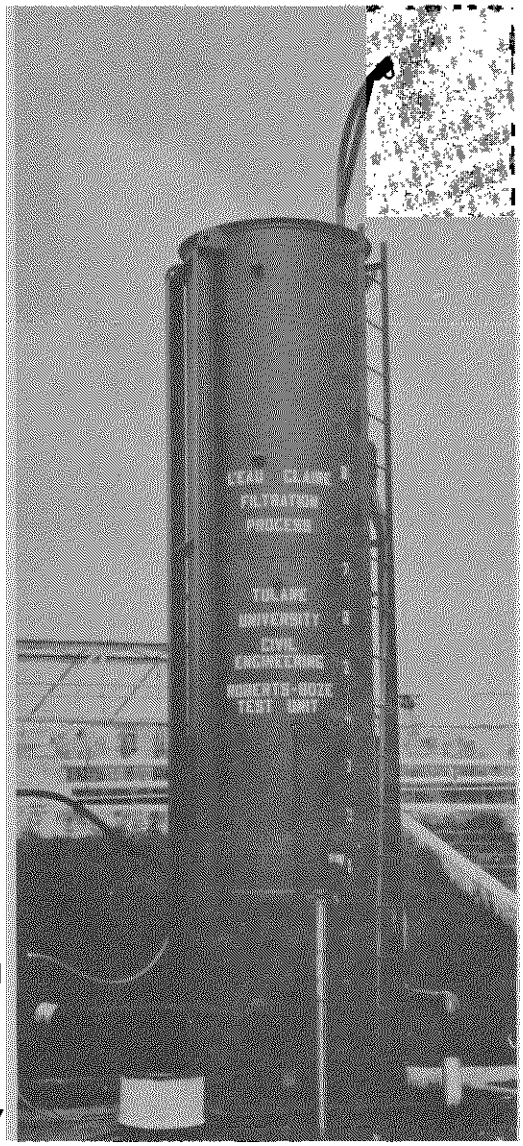
In 1948 Taylor became Manager of the Concordia Electric Cooperative, Inc., a position he currently holds.

Under his management the cooperative has grown from a small distribution system serving 2800 consumers using less than 2 million KWH annually to one serving over 8800 consumers using over 75 million KWH. To build and rebuild a utility system, so rapidly expanding, required much foresight, judgment and overall management ability.

During this time he has also been active in a statewide organization, The Association of Louisiana Electric Cooperatives, serving as president in 1952 and 1953, continually aiding and promoting the cause of rural electrification. In 1957-1958 he served on the National Committee for Utilities Radio.



The Microbiology Lab of the Environmental Engineering Building is shown above. Extreme right photo shows the research filtration reactor. Photo at right shows waste treatment research at an industrial plant.



ENVIRONMENTAL ENGINEERING

AT TULANE UNIVERSITY

Frank W. Macdonald,[1] Dr. of P.H.

Stephen E. Steimle,[2] Ph.D.

By the year 2000 the population of the United States is expected to double. Similar increases are anticipated in the other areas of the world and with this population explosion the magnitude of public health problems will increase.

There is no subject at the present time that is receiving more attention than environmental control. America has suddenly awakened to the environmental crisis that is endangering the air, water and land resources. Individuals selecting careers as environmental engineering or health specialists will be concerned with the present and future needs of our nation from the standpoint of the factors affecting the physical, mental and social well being of the people of our communities.

The need for trained environmental engineers is clearly indicated in the following tabulation of manpower projections:

ENVIRONMENTAL MAN POWER

	Supply	Need		
	1970	1970	1975	1980
Technologists	35,700	44,000	70,000	105,000
Scientists	11,300	22,000	28,000	32,000
Engineers	26,000	51,000	66,000	76,000
Totals	73,600	117,000	164,000	213,000

The programs in environmental engineering and health offered by Tulane University encompass the training of scientists, engineers and specialists to be employed in environmental control and research through industry, public agencies, research foundations, consulting engineering firms, and educational institutions. The programs include courses and research in many areas of air pollution abatement, water quality control, radiological health, industrial waste treatment, solid waste disposal, and the design of pollution control works as well as water treatment plants.

The environmental engineering and health programs at Tulane University are offered by the Department of Civil Engineering of the School of Engineering and the Department of Environmental Health of the School of Public Health and

[1] Chairman, Environmental Health Department and Professor of Civil Engineering.

[2] Assistant Professor Civil Engineering and Environmental Health.

Tropical Medicine. This close association affords students a wide and varied selection of courses and the opportunity to obtain a broad education, through interdisciplinary influences, in environmental control.

The Master of Science degree is offered in Environmental Engineering. The requirements include the satisfactory completion of 24 semester hours of graduate courses plus the thesis.

The Master of Engineering degree is a professional degree recently instituted by the School of Engineering. In environmental engineering a student who holds an engineering degree in an accredited curriculum may select this program which includes satisfactory completion of 33 hours of approved graduate courses with no thesis required. If a thesis is elected, 9 credit hours are given. A typical Master of Engineering program is as follows:

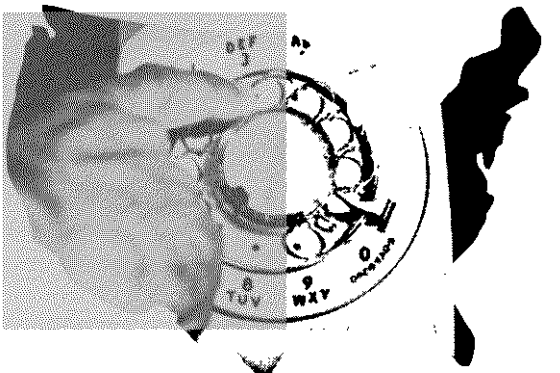
Course	Credit
Water & Waste Treatment	3 hrs.
Sanitary Chemistry	3 hrs.
Air Pollution	3 hrs.
Hydrology	3 hrs.
Elective	3 hrs.
Sanitary Microbiology	3 hrs.
Radiological Health	3 hrs.
Industrial Waste Treatment	3 hrs.
Solid Waste Disposal	3 hrs.
Elective	3 hrs.

A similar program is offered in the School of Public Health & Tropical Medicine for non-engineering students. This program also requiring 30 hours of approved graduate courses leads to the Master of Science degree in environmental health. There are many students in the New Orleans area who are enrolled in these programs on a part-time basis. These students include consulting engineers, biologists, chemists and environmentalists.

Programs are also offered for the Doctor of Philosophy, Doctor of Engineering and Doctor of Science degrees. A dissertation is required where the student must show ability to carry on an independent investigation and measure his literary skill in recording the results of the study. The dissertation must constitute a significant contribution to his field of study.

Modern laboratories and research facilities are available for the environmental health programs. An environmental engineering building recently constructed provides 7000 square feet of laboratories, classrooms, research areas, and student offices. Laboratories are provided in air pollution, water and wastewater treatment, microbiology and radiological health.

Much of the research conducted by the graduate students in connection with theses and dissertations is performed at the site of industrial plants, water treatment plants and waste disposal systems in the area.



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GULF OIL COMPANY'S ALLIANCE REFINERY

Continued from Page 15

guards against contamination of the atmosphere to undesirable levels.

1. In order to minimize the emission of hydrogen sulfide and/or sulfur dioxide to the atmosphere, the following provisions have been made:

a. Scrubbers will remove hydrogen sulfide from gas and liquid streams produced in the refinery.

b. A high conversion Sulfur Recovery Unit will convert the hydrogen sulfide desorbed from an amine solution into liquified sulfur. The Sulfur Recovery Unit will be provided with a forced-draft sealed incinerator to ensure that no unconverted hydrogen sulfide will be emitted to the atmosphere. The incinerator effluent, heated to about 1225° F, will be discharged through a 150 ft. high stack so as to provide extremely low sulfur dioxide concentrations at ground level.

The effect of the elevated temperature and the velocity at which these gases leave the stack increases the effective height of the stack by another 70 to 80 feet. Provisions will be made to detect any accidental discharge of hydrogen sulfide at five ground level locations and sound an alarm, thus enabling the operator to take immediate corrective action.

c. The refined products, such as LPG, Gasoline, Home-Heating Oil and Jet Fuel, will be treated to remove nearly all of the sulfur compounds. These products when used by their ultimate consumers will not produce undesirable levels of sulfur dioxide in the atmosphere.

d. The fuel to be burned at the refinery will be a combination of desulfurized refinery gas and natural gas containing nil sulfur, and producing nil particulate matter and sulfur dioxide upon combustion.

2. To avoid the emission of light hydrocarbons and other miscellaneous gases to the atmosphere, the following will be provided:

a. Two 300 ft. tall flare stacks complete with smokeless tips will completely burn all combustible materials discharged from emergency and other points. The flare stacks will be provided with molecular seals as a vapor seal to reduce purge gas requirements. A television camera will be provided to monitor the flare flames thereby optimizing the smokeless operation. Anemotherm probes will be used to detect which unit's gases are being released to the flare system and also the quantity so that corrective action may be taken as quickly as possible.

b. Pressure relief valves that may leak during operation due to the severe operating conditions will be provided with car-sealed open block valves to facilitate their quick replacement.

c. Volatile liquid hydrocarbons will be stored in floating roof tanks to minimize loss of light ends to the atmosphere. This includes crude, gasolines, and all jet fuels.

d. An elaborate gas detection system consisting of seven combustible gas detectors will be located strategically in the refinery. Each detector will provide continuous signals to the control room indicating the concentration of combustible vapors in the vicinity of its location. This, of course, will enable operating personnel to take immediate corrective action, thereby minimizing air pollution.

3. The discharge of carbon monoxide to the atmosphere will be drastically limited as follows:

a. The large heaters will be provided with oxygen monitors so as to maintain sufficient excess air to ensure substantially complete combustion.

b. The regenerator flue gas from the FCC Unit will be heated with auxiliary fuel and combusted in two CO Boilers at about 1800° F to reduce the carbon monoxide content from about 8.9 wt.% to virtually zero. The boilers will be provided with oxygen monitors capable of trim air control to aid in ensuring complete combustion.

4. The discharge of particulate matter into the atmosphere will be limited by the following equipment:

a. The FCC Unit regenerator will be outfitted with five, two-stage, high-efficiency cyclones capable of recovering the bulk of the entrained particulate matter in the flue gas.

b. A Third Stage Separator will also be provided to reduce the entrained particulate matter further resulting in a regenerator flue gas to the CO Boiler containing a minimal amount of particulate matter.

Manpower

Manpower for this refinery is contemplated to be in the order of 250 employees. This number does not include maintenance workers who will be employed on a contract basis. Process operations will be controlled from a central control room which will house the vast majority of the information and control devices. A second control room will handle all storage, blending and shipping operations. The rather broad areas served from these central points will be efficiently covered with minimum manpower by use of portable radio communications. The relatively large distances for instrument signal transmission will be neutralized by electronic instrumentation throughout.

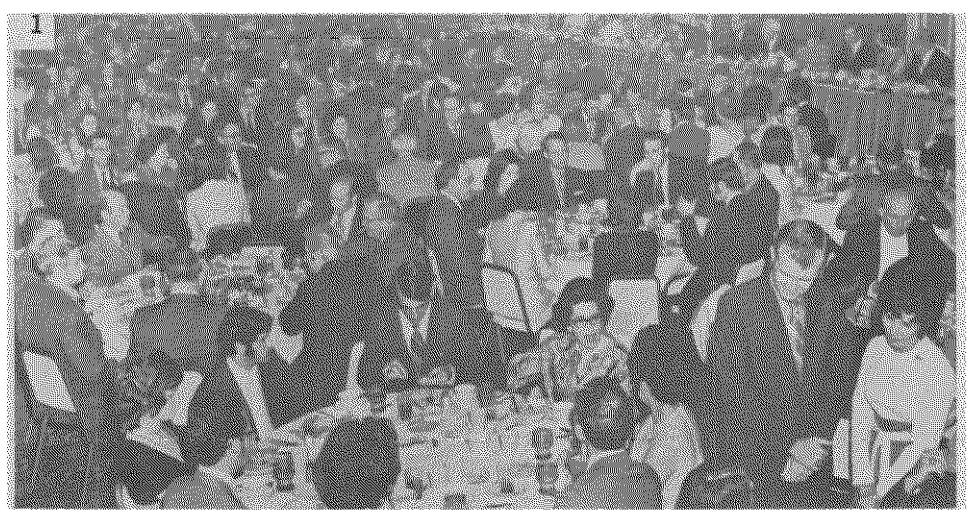
In addition to monitoring and certifying the quality of Gulf products, the Laboratory is responsible for assisting Process Engineering in monitoring the quality of materials produced by the Gulf Alliance Refinery that are not marketable. These materials are generally classed as waste materials and are potential pollutants to the air and estuary waters of the state of Louisiana. Consequently, Process Engineering and the Laboratory are charged with maintaining constant surveillance of the quality of materials released either to the atmosphere or to the estuary waters of Louisiana. These materials must meet quality standards established by both the state of Louisiana and the U. S. Federal Government.

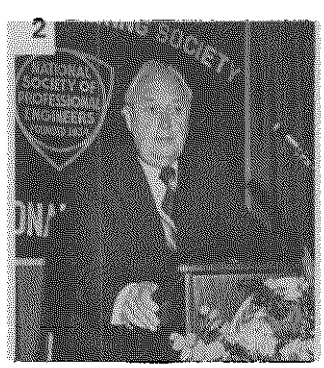
LAFAYETTE MEETING

The Annual Spring Meeting in Lafayette was held March 3-4 and was hosted by the Lafayette Chapter of LES. Several hundred members and wives attend from throughout the state. Shown here are some typical scenes of that meeting.

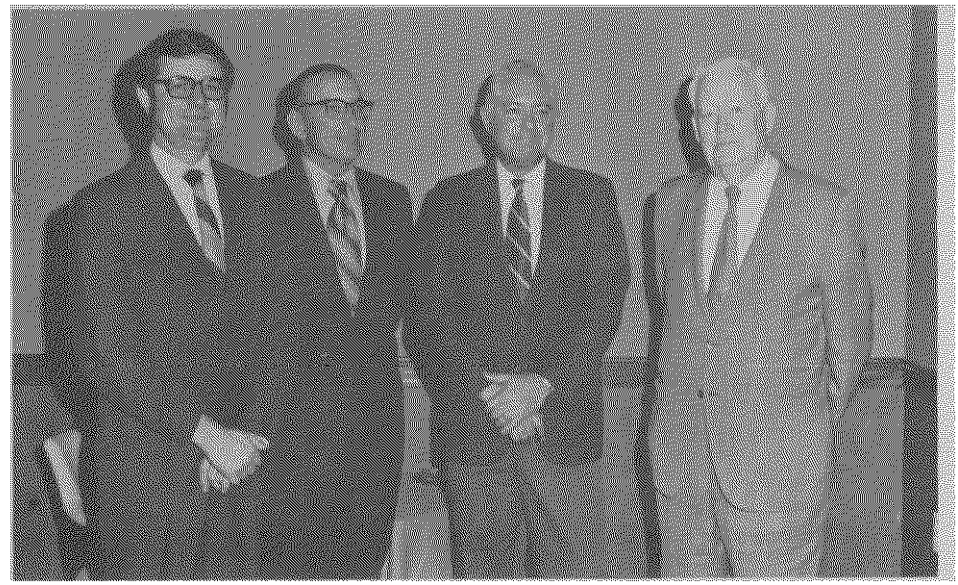
ENGINEERS WEEK

1. Engineers Week Banquet of the Lake Charles Chapter.
2. R. A. Riley, Executive Vice President of the Firestone Tire & Rubber Co., addresses the Lake Charles banquet.
3. Engineers Week in New Orleans. Left to right are New Orleans Councilman Joseph DiRosa; New Orleans LES Chapter President Malcolm Hurstell; IEEE President Henry Markel; ASME President Ted Aucoin; ASCE President William Conway; Engineers Week Activities Chairman Roy Giangrosso; and AIME President George Archley.
4. Louisiana Power and Light Co. control room supervisor Roy Steele explains the controls to high school students as part of Engineers Week activities of the Monroe Chapter.
5. E. E. Moncla introduces Harry Bovay (seated right) during Engineers Week Banquet of the Monroe Chapter.



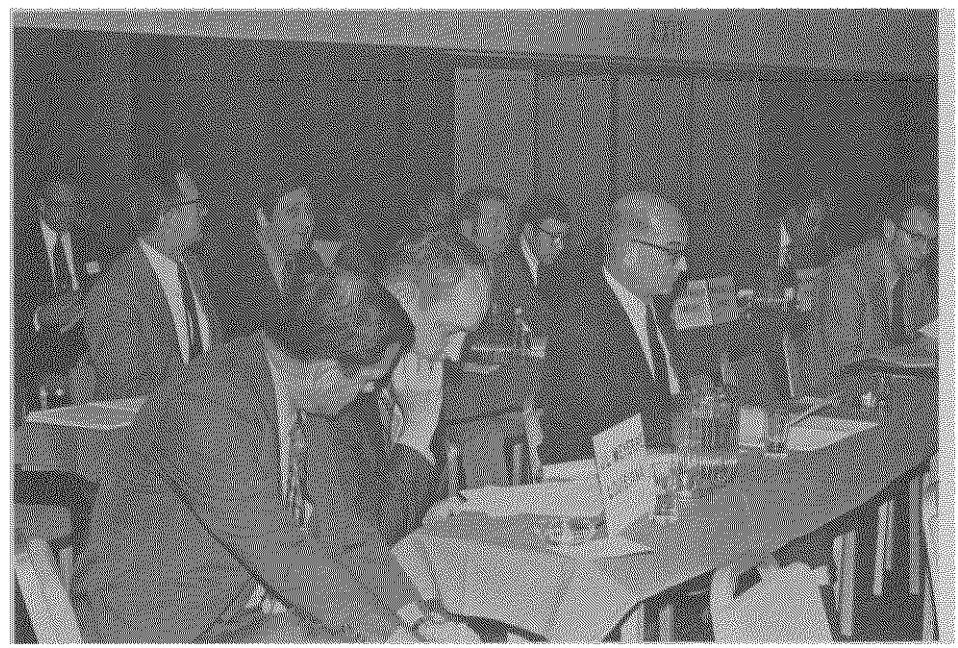


ENGINEWS



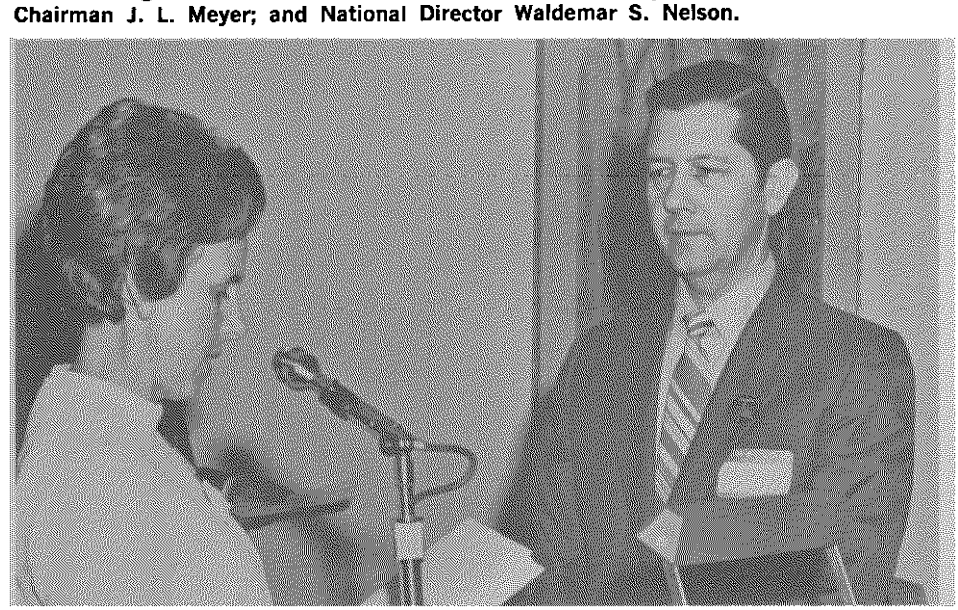
New Officers of the Engineers Club of New Orleans are from left, Ronald P. Cressy, president; William French, first vice president; Donald Blythe, treasurer; and Claude Kelly, Sr., second vice president. Not shown is Wanner Potin, secretary.

Louisiana Tech student Robert T. Moore accepts a cash scholarship from Mrs. Albert McKee, President of the Monroe Ladies Auxiliary. The grant is awarded yearly by the group to an engineering student from the northeast Louisiana area.



The Louisiana delegation to the recent NSPE meeting held in Dallas, Texas, is shown in the foreground. Pictured here are Executive Secretary Gerald Simmons, PEPP Chairman J. L. Meyer; and National Director Waldemar S. Nelson.

Mrs. Kenneth Deal, President of the Ladies Auxiliary of Lafayette, presents a book to Dr. James W. Reeves, Dean of Engineering of the University of Southwestern Louisiana. The book was a token of appreciation for the contribution the university has made to the engineering profession. Dr. Reeves is also second vice president of the Lafayette Chapter.



SHORT COURSE

An Environmental Engineering and Ecology Short Course is scheduled by the Department of Civil Engineering of Tulane University from June 19-23, 1972. This short course will consist of lectures, group discussions and work sessions.

The School of Engineering of Tulane is also offering other short courses of one-week duration during the summer of 1972. Details of these courses may be found in the full page announcement in this issue of the **Louisiana Engineer**.

INSTRUMENT SHOW

The Instrument Society of America will hold an instrumentation exhibit April 26-27 at the Capitol House Hotel in Baton Rouge, La. National, regional and local representatives will display their latest in process and control equipment daily from 11 a.m. to 9 p.m.

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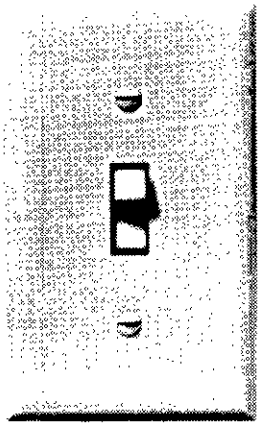

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2	Monroe	19	16	118.750
3	Lafayette	14	14	100.000
4	Alexandria	12	14	85.714
5	Baton Rouge	41	49	83.673
6	Lake Charles	8	13	61.538
7	New Orleans	39	84	46.428
8	Shreveport	11	24	45.833
	State Totals	160	224	71.428

MINUTES OF THE BOARD

January 21, 1972

Sherwood Forest Country Club — Baton Rouge, La.

President Hogue called the meeting to order with the following board members present: Farrell W. Adams, P.E.; Alvin Badeaux, P.E.; Ron Boutte, P.E.; Daniel Brown, P.E.; Hoyt W. Brown, Jr., P.E.; Marshall B. Ewing, P.E.; Frank R. Groves, Jr., P.E.; Carl Heck, Jr., P.E.; T. J. Hogue, Jr., P.E.; Jim Janssen, P.E.; James L. Meyer, P.E.; Lamon L. Moody, P.E.; Steve A. Nasca, P.E.; Raymond E. Pillow, P.E.; Billy R. Rentrop, P.E.; Jack Thigpen, P.E.; A. J. Szabo, P.E.; and Grover Trammel, P.E. Guests were Frank Miller, Jr. P.E.; and Ernest E. Ludwig, P.E. and Gerald A. Simmons, Executive Secretary.

The minutes of the December 10, 1972 meeting were approved as forwarded to the Board with the following corrections: Page 4, last paragraph—"Attachment of drawing of L.E.S. emblem is included as attachment to the official minutes."

Motion by Dr. Thigpen, seconded by Mr. Moody, "that the minutes be accepted as corrected." Motion Carried.

Financial Report—The financial report was given by Mr. Simmons, Executive Secretary of the Society, for the month of December 1971. Receipts as of Dec. 31 were $51,993.16 with budgeted receipts expected of $53,950.00 for the same period. Total expenses year to date for the same period were $44,161.60 with budgeted expenses of $49,574.99.

Motion by Mr. Moody, seconded by Mr. See "that the financial report be accepted as presented." Motion passed.

Mr. Meyer stated that the P.E.P.P. Fund contributions were not as much as needed for the operation of P.E.P.P. activities and that the P.E.P.P. members should be sent a letter asking for additional participation. The board agreed such a letter was in order.

Report of Functional Sections

Professional Engineers in Industry—Mr. Janssen, chairman of P.E.I., submitted the attached report.

Professional Engineers in Government—Mr. Nasca, Chairman of P.E.G., reported that the section recommends three steps in the further implementation of the Salary Study report. The steps are as follows:

(1) Do we have the support of the State Department of Civil Service in the Salary Study that we submitted to them? This concerns us first. If they are not fully convinced that our salaries should be on the same level as Federal Professional Engineers, then we need more convincing at this level.
(2) The State Civil Service Commission receives and acts on recommendation made by the Department of Civil Service. This Commission should be made acquainted with our desires so they could act understandably.
(3) The Governor's Office should be informed and convinced that our salaries need adjusting.

Mr. Nasca reported that the Civil Service Commission had tabled their original recommendations and are preparing a new report.

Motion by Mr. Brown, seconded by Mr. Moody, "that the recommended action of P.E.G. on the Salary Study Report be accepted." Motion Carried.

Professional Engineers in Private Practice—Mr. Meyer, chairman of P.E.P.P., asked Mr. Szabo to report on a meeting in New Orleans where a discussion of problems with the funding of Act 171 were aired.

Mr. Szabo stated the same commitments to municipalities were not being honored by E.P.A. under Act 171 and funds could not be dispensed due to problems with bond sales by the State of Louisiana. A delegation is going to Washington, D.C. to discuss the problem with the Congressional Delegation. In the meantime, bonding attorneys are looking into means of qualifying Louisiana for federal funds over and above that we are now eligible to receive and the possibility of amendments to Act 171 in the next session in order to have Louisiana comply with E.P.A. regulations.

Mr. Meyer reported on the meeting of N.S.P.E.-P.E.P.P. recently held in Dallas. He stated that the P.E.P.P. section had adopted new regulations for state sections over Louisiana's objection. The new regulations are as follows:

(a) The state P.E.P.P. section holds at least one membership meeting annually.
(b) The state P.E.P.P. section elects a state chairman annually.
(c) All members of the State P.E.P.P. section are also members of NSPE/PEPP in accordance with Section 6 of this document.
(d) The state PEPP section shall be affiliated with the state society as a fully accredited practice section.

Mr. Meyer reviewed a proposed resolution regarding E.P.A. Turnkey Proposals.

Motion by Mr. Adams, seconded by Mr. Brown, "that the rules be suspended and the resolution be considered by the Board." Motion carried.

Motion by Mr. Meyer, seconded by Mr. Szabo, "that the following resolution be adopted:

WHEREAS, The Environmental Protection Agency has proposed by publication in the Federal Register of September 15, 1971, to amend Part 601, Subpart B, Section 601.27 of the Agency's rules to establish regulations to permit approval of "Turn Key" projects for waste treatment plant construction; and

WHEREAS, the National Society of Professional Engineers and NSPE-PEPP have recorded the objections of the 65,000 membership of the organizations to the proposed changes, and have made the Environmental Protection Agency aware of these objections by appropriate action at the public hearing held for such purpose in Dallas, January 13, 1972, and

WHEREAS, the Board of Direction of the Louisiana Engineering Society fully supports the position of the National Society of Professional Engineers, as reflected by the NSPE Resolution attached hereto,

NOW THEREFORE, BE IT RESOLVED by the Board of Direction that the Louisiana Congressional Delegation ("Delegation") is requested to lend its influence in opposing the proposed rule change to amend the Part 601, Subpart B, Section 601.27 as published in the September 15, 1971, issue of the Federal Register, and that the Delegation be further requested to advise Mr. William D. Ruckelshaus, Administrator of EPA, of the Delegation's support of engineers in this matter, and

BE IT FURTHER RESOLVED, that copies of this resolution be provided each of the following:

Honorable Allen J. Ellender, Senator
Honorable Russell B. Long, Senator
Congressman F. Edward Hebert
Congressman Hale Boggs
Congressman Patrick T. Caffery
Congressman Otto E. Passman
Congressman John R. Rarick
Congressman Edwin W. Edwards
Congressman Speedy O. Long
Congressman Joe D. Waggonner, Jr.

Motion Carried.

Professional Engineers in Education—Mr. Groves, chairman of the PEE section, had no report.

Environmental Study Committee Report—Mr. Ernest Ludwig, chairman of the Environmental Study Committee reported that the committee had met and organized its activities. They are now proceeding to determine the role of governmental agencies in the environmental field. Action will be reported to the Board.

Motion by Mr. Szabo, seconded by Mr. Pillow, "that the committee report be received." Motion carried.

Legislative Committee Report—Mr. Carl Heck, Jr., chairman of the Legislative Committee, submitted the attached report from the Committees (see attachment).

Mr. Heck reviewed the report and suggested action be taken on each section separately.

Item I. To create an Integrated Engineering Society

Mr. Heck discussed the proposal to create an Engineering Society for engineers similar to the Bar Association now in existence for attorneys. After discussion, a motion by Mr. Janssen, seconded by Mr. Groves, "that we receive, but not approve, the first section of the report dealing with an Integrated Society, and that the Legislative Committee draft the bill, and present same to the board for its action at the next meeting, provided that the report delete 'Legislature at the next session,' and add in lieu thereof 'Legislative Council for review' in the last sentence of the first section of the report."

Substitute motion by Mr. Trammel, seconded by Mr. Moody, "that we accept the first section of the Legislative Commmittee report dealing with an integrated society and that the Legislative Committee draft the bill and present same to the Board for action at the next board meeting, provided that the report delete 'Legislature at the next session' and add in lieu thereof 'Legislative Council for review,' in the last sentence of the first section of the report."

Substitute motion passed on a vote of 12 yeas to 5 nays.

Mr. Heck reviewed the committee's recommendations in Section 2 of the report, Legislature changes in Registration Law.

Mr. H. Brown moved, and Mr. Janssen seconded a motion, "that the Board accept Section 2 of the Legislative Committee report." Motion Carried.

Motion by Mr. Szabo, seconded by Mr. H. Brown, "that the Board authorize the legislative committee to prepare the necessary draft of legislation to submit proposals for (a) the elimination of branches in registration, (b) removal of exemptions for engineers in industry or in government, (c) elimination of registration by virtue of long established practice and (d) to require a second eight hour exam in principles and practice and inclusion of the authorization for the EIT Exam in the present registration law and (f) authorization to administer a Code of conduct into the present registration law, and that the final draft be submitted to the Board for action before introduction by the Legislature." Motion Carried.

Mr. Heck Discussed Section 3 of the Report.

Motion by Mr. Szabo, seconded by Mr. Meyer, "that the Board accept Section 3 of the report and authorize the Legislative Committee to work with interested parties to update Act 171." Motion Carried.

Mr. Heck reviewed Section 4 of the report.

Motion by Mr. Trammel, seconded by Mr. Ewing, "that the Board accept Section 4 of the Legislative Committee report." Motion carried.

Mr. Heck reviewed a request by Mr. Chad Breaux, member of the Legislative Committee from the Alexandria Chapter,

asking the L.E.S. to support Amendment No. 1, providing for Relocation Cost Assistance when property is acquired by the State and Local Governments for highway and other public construction purposes, to be voted on in the general election.

Motion by Mr. H. Brown, seconded by Mr. Szabo, "that the rules be suspended to consider the request." Motion carried.

Motion by Mr. Szabo, seconded by Mr. H. Brown, "that L.E.S. support and endorse Amendment No. 1." Motion carried.

Report on N.S.P.E. Winter Meeting—In Mr. Heroy's absence, the attached report was presented to the Board (see attachment).

Resolution Regarding LOUISIANA ENGINEER—Motion by Mr. Szabo, seconded by Mr. Trammel, "that the rules be suspended to consider a resolution." Motion Carried.

Motion by Mr. H. Brown, seconded by Dr. Thigpen, "that the following resolution be adopted: "Up to one page be provided for "letters to the President" on any matter that a member would like to bring to the President's and the readership's attention: the letters to be published shall be selected by the President and are intended to provide a sounding board for opinions that may differ from existing policies. The only requirement is that the letters shall be short and in good taste—at the discretion of the President the published form of the letter may be synopsized to conform to available space." Motion Carried.

Resolution Regarding the Establishment of a New Functional Section—Motion by Mr. H. Brown, seconded by Mr. Pillow, "that the rules be suspended to consider a resolution to form a new functional section." Motion failed.

Mr. Hogue stated that the resolution would be on the next board meeting agenda for consideration.

Report on L.E.S. Spring Meeting—Dr. Thipgen reported that all plans for the Spring Meeting were complete and thanked the Lafayette chapter leadership for their efforts in planning the meeting. Mr. Hogue reminded the chapter presidents of the deadline on chapter nominees for the L.E.S. awards.

Summer Student Jobs Program—Dr. Thigpen reported that four chapters had provided lists of prospective employers of students during the summer. He stated that the committee would write to a number of prospective employers to determine their interest and report at future board meetings.

The next meeting of the Board of Directors will be Saturday, March 4, 1972 at 2:00 p.m. at the Rowntowner Motor Inn, in Lafayette, Louisiana.

RESOLUTION ADOPTION PROCEDURE

The LES Constitution, Article XII—Motions Or Resolutions. Section 1, is quoted below:

"Motions or Resolutions which provide for the **expression of the Society's view** may be adopted by a two-thirds vote of the Board members present and voting at any meeting of the Board of Direction; **provided due notification thereof, including the motion or resolution, has been sent to each member of the Board of Direction with the notice announcing the date of the meeting**; provided further that the rule requiring such notification may be suspended by unanimous consent of Board members at any meeting."

Also, Bylaw 13—Parliamentary Procedure, is quoted below:

"Roberts Rules of Order Newly Revised, or the latest edition thereof, should govern matters of parliamentary procedure at all meetings."

The Constitution takes precedence over the Bylaws in every case, therefore if there is any conflict between Article XII and Bylaw 13, then Article XII governs.

To clarify the matter of a Committee Report, made at any Board meeting, wherein the report contains a recommendation for the Board to adopt a "motion or resolution" which provides for the **expression of the Society's view**; it will be handled as follows:

(a) If the Committee report, or as a minimum, its recommended Motion or Resolution, **has not** been distributed with the Board meeting notice, then unanimous consent of the Board must be given for the consideration of the Motion or Resolution. If unanimous consent is not given, then the resolution shall be placed on the next meeting agenda and distributed with the meeting notice of the next board meeting.

(b) The Board shall not **Accept** any part of a Committee report, which contains a Motion or Resolution which is an "expression of the Society's view," as a means of circumventing the prior notification requirements of Article XII.

(c) Committee reports containing a Motion or Resolution, may be Received, which shall not be same as the Acceptance of the contained Motion or Resolution.

(d) Although prior Board action ("Board Operating Procedure," dated August 11, 1966) required distribution of information on all Agenda items with the meeting notice, it allows non-agenda items to be considered after all agenda items have been considered, by a majority vote of Board Members present.

(e) Motions or Resolutions of an Administrative or Operational nature are exempted from the prior notice requirement, however, it is the express desire of this Board that all such Motions or Resolutions be sent with the Board meeting notice in all cases.

This Resolution approved by the Board of Direction on March 4, 1972.

Whereas it is desirable from numerous points of view to increase the membership in the National Society of Professional Engineers in Louisiana and

Whereas the inter-chapter membership contests in recent years have resulted in increased membership in the Louisiana Engineering Society and

Whereas the efforts of the various Chapter Membership Committees should be directed toward inducing LES members to become NSPE members.

Therefore, be it resolved that in future contests, Chapters shall be awarded one point for each new member of LES and two additional points if the new member also becomes a member of NSPE.

REPORT ON WINTER MEETING

N.S.P.E. Board of Directors
January 13-15, 1972 — Dallas, Texas

Representing Louisiana at the Board of Directors meeting were Waldemar S. Nelson, and Frank M. Heroy, Jr.; PEI was represented by James S. Janssen of New Orleans; PEPP by Jim Meyers of Alexandria; PEG by Frank M. Heroy, Jr. of Baton Rouge; and Gerald Simmons represented Louisiana at the State Society Administrators Council.

Significant action by the Board of Directors included the following items:

1. A new Legal Assistance to Engineers policy was adopted which allows "NSPE to protect the interest of the individual engineer by being able to provide legal assistance to help guarantee his privilege to practice engineering." This will be funded by voluntary contributions and NSPE budget (to the extent possible). The National Engineers Legal Fund, Inc. has indicated they would dissolve their group if NSPE took the above action.

2. The "Recommended Income-Benefit ranges for Professional Engineers" was accepted in draft form for use by the NSPE President in opening discussions with other professional engineering societies in order that the engineering profession would be in general unity on the subject. Then the recommendations could be tested with representatives of industry and government.

3. A "Proposed Guidelines for Further Development of Student chapters and Student Membership" was adopted.

4. A revision of the "Rules of Government and Operation of Professional Engineers in Private Practice" was adopted.

5. A resolution was passed in opposition to the Environmental Protection Agency proposal for "turn-key" projects involving the design and construction of waste treatment plants.

6. An action program was adopted to attain engineering's objectives in the private pension plan field.

7. The following amendments to the Constitution and Bylaws as recommended by the Enion Management Study were passed and will be presented to the membership for voting on the proposals:

   A. That separate departments of Legislative and Government Affairs; PEE; PEG; PEI; and PEPP be established (Bylaws 7 and 8).
   B. Elevate Surveyor members to equal status with members (Art. V).
   C. Membership of State Societies will establish uniform membership grades in accordance with NSPE membership requirements.
   Amendments requiring further study or reconsideration and which will be presented again in July 1972 at the Denver Annual Meeting include:
   D. The Board of Directors be limited to a maximum of four from any one State Society (under this limitation

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Louisiana would lose one National Director).
Proposed amendments which failed included:

E. Reduction in dues to one half for members under 30 years of age.

8. Louisiana failed in its bid to host the 1975 NSPE Winter Meeting, but New Orleans was selected for the 1973 Southwest Regional NSPE meeting. Sites selected for 1975 were Tucson, Arizona—Winter; and Minneapolis, Minnesota—Annual.

9. A resolution was passed to promote acceptance of NSPE Guidelines for Engineer-Management Relationships by Federal Agencies.

LES Travel Expense Reimbursement Policy

The following policy will govern the Louisiana Engineering Society's practices with regard to its travel expense reimbursement procedure:

A. **LES Members**

1. In all cases where reimbursement of travel expenses will be requested from the Society, specific prior approval shall be obtained from the Board of Directors. The Board shall, at that time, specify any particular reimbursement restrictions such as mode of travel, per diem allowances, excepted expenses, total limit, etc.

2. Reimbursement will be limited to the extent that funds budgeted by the Society for travel expenses are available and that such expenses are not otherwise reimbursed from other sources (including, but not limited to, NSPE, Firms, Companies, Agencies or Practice Sections' Funds).

3. Requests for approval for National Directors of the Society will take precedence over Practice Section delegates whenever sufficient funds are not available.

4. No more than one delegate from any Practice Section for a given meeting or conference shall be approved by the Board.

5. Each Practice Section Chairman (or his delegate) and National Director shall submit to the Executive Secretary an estimate of the expected reimbursement ten (10) days prior to the meeting at which approval is to be sought.

B. LES Executive Secretary

1. Travel within the state, not requiring an overnight stay, shall not require specific prior approval; however, an accounting of any reimbursable expenses shall be made.

2. Interstate or intrastate travel involving an overnight stay, in the Society furnished automobile, shall require prior approval by the Secretary-Treasurer.

3. Travel involving other transportation means and/or extended periods shall have prior approval by the Executive Committee of the Board of Directors.

4. Any travel expenses for which reimbursement will be sought for any staff or secretarial assistance at a meeting or conference shall require specific prior approval by the Secretary-Treasurer.

5. The Executive Secretary shall prepare an estimate of expected reimbursement expenses for submittal to the Secretary-Treasurer for those instances where prior approval is required.

In the case of either LES members or the Executive Secretary an accounting of the expected reimbursement expenses is to be submitted to the Secretary-Treasurer as soon as practicable after their incurrence. Receipts shall be attached for all lodging expenses and all single expenses in excess of $25.

In order to permit proper budgeting, those who anticipate incurring reimbursable travel expenses shall submit to the Secretary-Treasurer before April 30 each year an estimate of travel expenses for which they expect to request reimbursement from the Society in the next fiscal year. The incoming Secretary-Treasurer and Finance Committee shall recommend for the Board's approval amount(s) to be included in the budget consistent with the best interests and overall goals for the Society. The Executive Secretary's travel expenses shall be budgeted separately from all others.

In all instances the Board of Directors shall have ultimate authority over the reimbursement of expenses and may alter the policy outlined above at its discretion.

ARGUMENTS FOR AN INTEGRATED SOCIETY:

1. In all Professional thinking the welfare of the Public must be the first consideration. That is the fundamental purpose of having Registration Laws in the first place. It is apparent that to adequately protect the Public, the Profession must have strict and adequate methods of establishing an individual's capability of practicing that profession. It will better protect the Public and the Profession by requiring all persons who practice Engineering to Register.
2. It will make it possible for the profession as a **whole** to govern itself by providing for the first time a method of communicating with each Engineer.
3. It will spread the financial burden of Professional Work over the Entire Profession which is only fair since the entire Profession benefits from the work of Professional Societies.
4. It will provide the organism which has authority to promulgate Rules of Professional conduct.
5. It will provide a Forum and Procedure to discipline Members by suspending or revoking the member's License.

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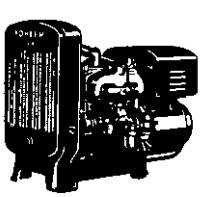
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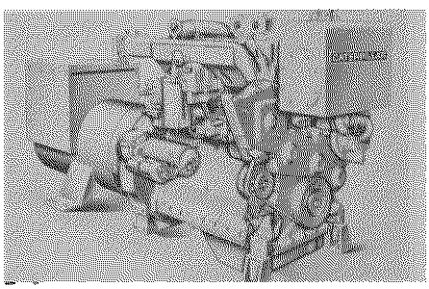

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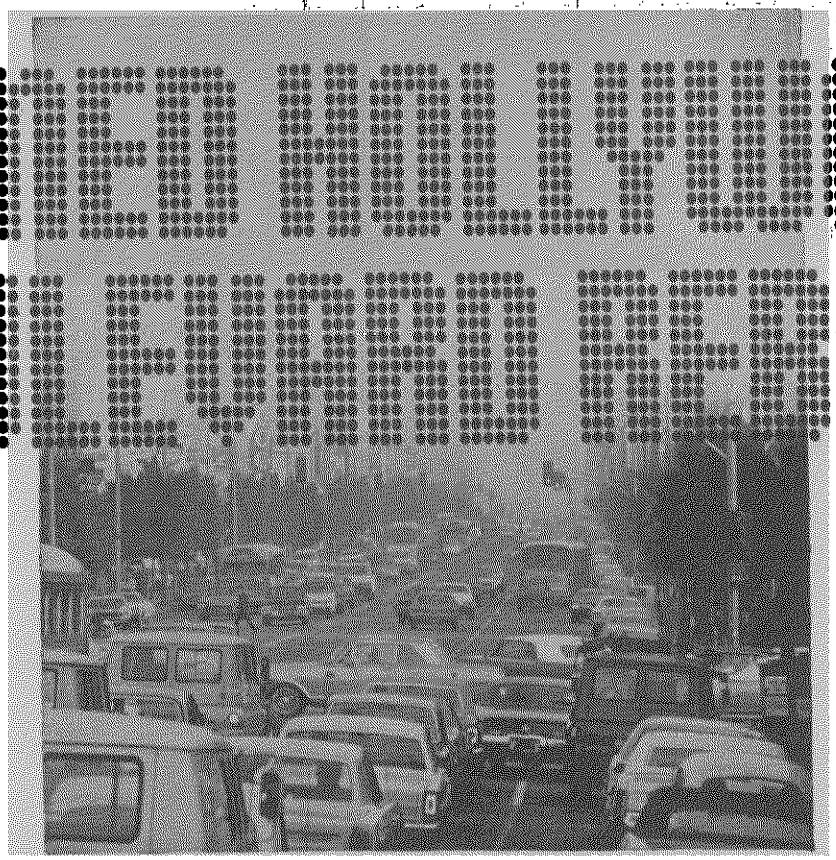

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The Asphalt Institute
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THE HOLLYWOOD BOULEVARD PROJECT

TYPE: Arterial city street, two traffic lanes each direction, with left-turn lanes at major intersections and curb parking each side. Full-Depth Asphalt paved.
LENGTH OF PROJECT: 7,000 feet.
TERRAIN: Flat.
CLIMATE: Mild.
TRAFFIC: Heavy.
ROADWAY: Subgrade: A-2-4, A-4-1 soils with R-value approximately 40.

BASE: 10" asphalt-concrete laid in one Deep Lift.
SURFACE: 2" asphalt-concrete.
ASPHALT: 85-100 Pen. used for both base and surface.
DRAINAGE: Runoff controlled by curbs and gutters.
COMPACTION: Subgrade: 95%, AASHO T-99.
Asphalt Concrete Base: 98% laboratory density.

The Hollywood Boulevard project was built under supervision of Lyall A. Pardee, City Engineer for Los Angeles. Specifying Full-Depth Deep Lift Asphalt pavement resulted in substantial time and money savings for this major improvement. Meanwhile, traffic flow continued uninterrupted during construction of a smoother, safer riding street for long-range serviceability with minimum maintenance.

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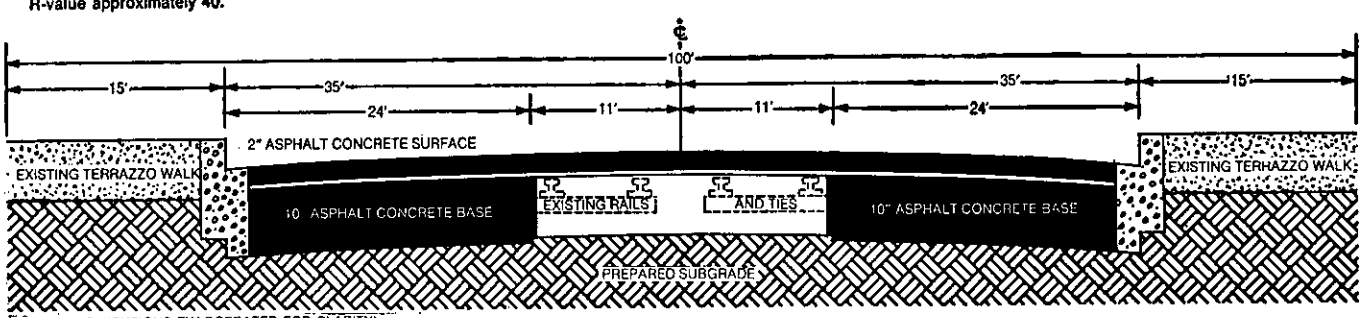


(VERTICAL DIMENSIONS EXAGGERATED FOR CLARITY)

LOUISIANA ENGINEER

JUNE 1972

REFLECTIONS

For nearly two years, the Louisiana Engineering Society has conducted a continuing forum for the specific purpose of obtaining expressions from engineers concerning ways and means to further enhance the profession insofar as state laws are concerned. Through a series of meetings conducted in various geographic locations, personal communications and conversations, and direct solicitations, these views were embodied in a proposed legislative package and submitted to the 1972 session of the Louisiana Legislature.

While LES membership includes over 30 percent of the state's registered professional engineers, it was realized and appreciated that any legal changes, or proposed changes, affecting the engineering profession were rightfully the domain of all members of the profession; hence the concerted effort to obtain all viewpoints.

At this writing, we were optimistic that in the final analysis, the major portion of our legislative package, which we believe to be sound and to the best interest of the profession, would be enacted into law. However, such enactment would not be due to a few members in the profession who took the occasion of legislative committee hearings to imply that the proposals were not representative of the views of the profession. We question the motives of these few.

In testimony before the House Commerce Committee, these few, unencumbered with fact and somewhat dedicated to the distortion of the truth, indicated that LES was utilizing "steamroller tactics," that the proposals embodied in the legislative package represented only the views of LES, and that LES was not representative of the profession. We impugn the integrity of these few, question their motives, and charge selfishness. The basis for these accusations is as follows:

First, efforts over a two-year period to obtain viewpoints and expressions from members of the profession can hardly be characterized as "steamroller" tactics. To the contrary, such a course is in the best tradition of the democratic process. Also, all action taken by the Board of Direction of the LES is printed in the Minutes of the Board in each issue of the LOUISIANA ENGINEER. This magazine is mailed to **all** engineers registered in Louisiana regardless of whether they are members of LES! Recent issues of the magazine have also carried notices of meetings throughout the state where the legislation was discussed, and urged **all** engineers to participate.

Second, LES has not contended that it represents **all** members of the engineering profession; however, it is a fact that LES is the organization that represents **more** members of the profession than any other. And LES represents a broad cross-section of the profession, not a small, fragmented, somewhat biased group.

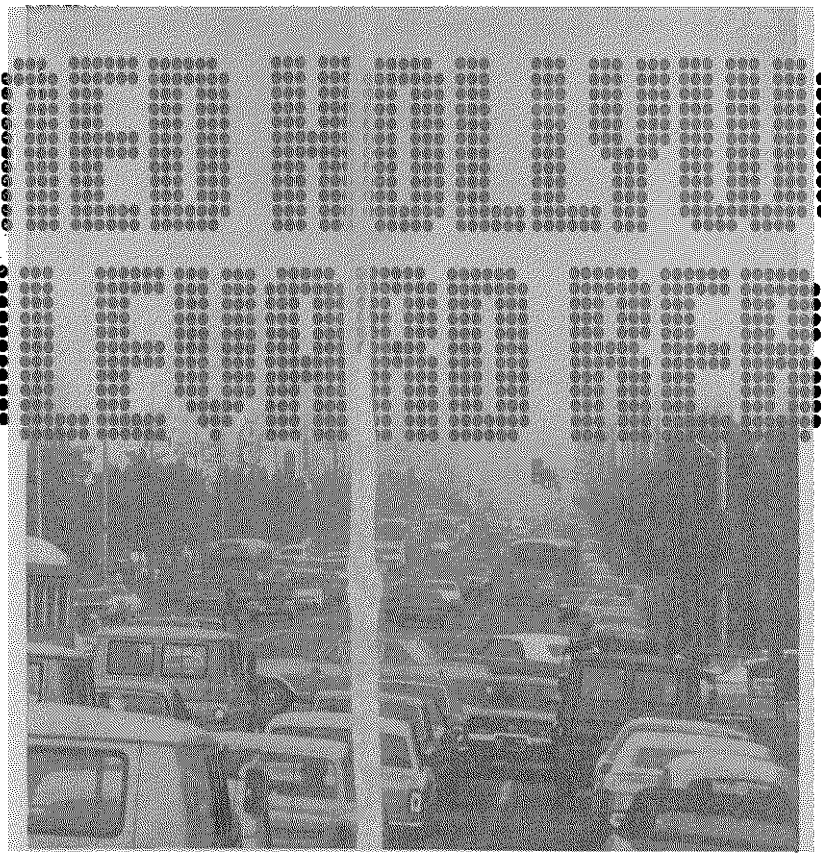
Third, the few proposed "delay until the next session" any action on the legislative package. Delay is not a substitute for a positive program.

Further, these few, after challenging the integrity of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors and questioning both the board's honesty and objectivity, then, surprisingly, commented on the need for a Code of Ethics. We would observe that their knowledge concerning a Code of Ethics is as minuscule as their knowledge concerning Einstein's theory of relativity, particularly when placed in context with their comments of the Board of Registration.

These few were joined by a representative of the Louisiana Architects Association in attacking our proposed legislation. Our observation here is that birds of a feather . . .

On the other hand, it is indeed rewarding to see from our mail the positive response given to our legislative proposals by so many engineers throughout the state.

LES will continue to pursue programs, legislative or otherwise, that hold promise of making worthwhile contributions to the engineering profession in Louisiana. Efforts in the future, as in the past, will be directed to providing **all** members of the profession an opportunity to comment and participate in these programs. It is our considered opinion that our profession can make positive accomplishments only when we act as a unified profession, not as a fragmented, sectionalized operation.



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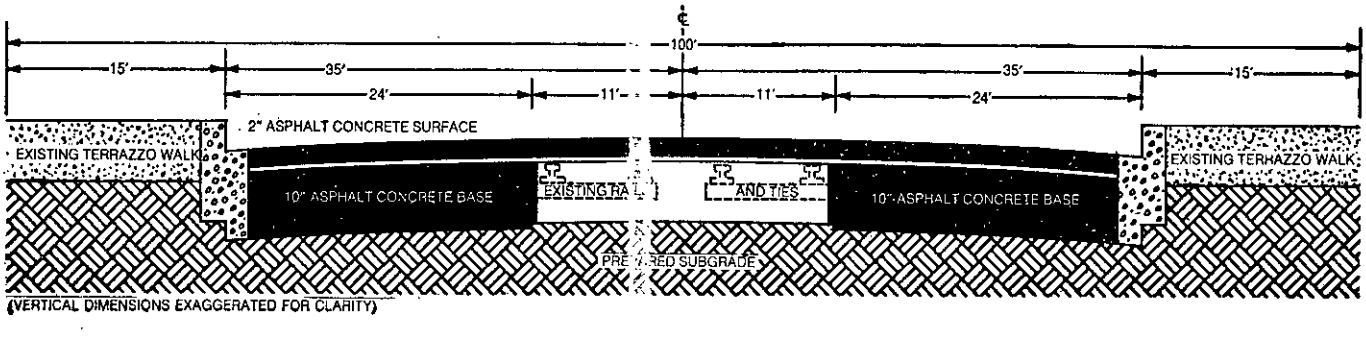

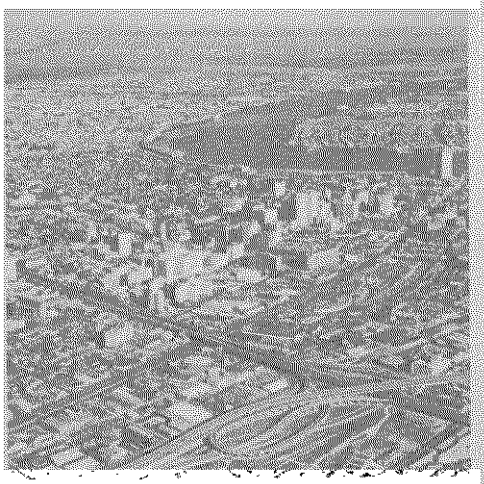

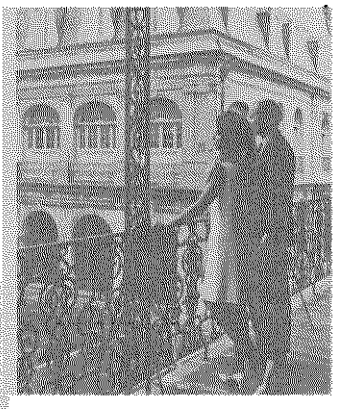

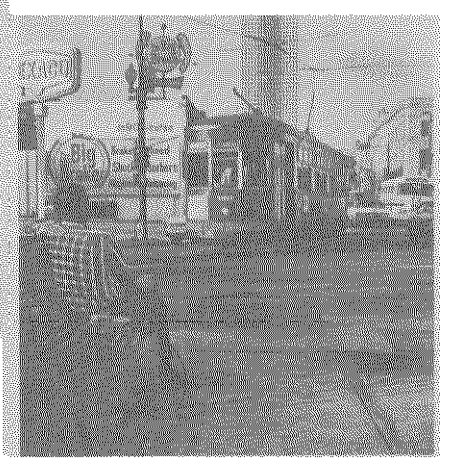

LES ANNUAL MEETING

NEW ORLEANS July 27-29, 1972

R. A. GIANGROSSO, P.E.
Publicity Chairman

Allons a Nouvelle Orleans! Allons, come you Perret's, Desormeaux's and Hebert's, you Tarbutton's and Smiths, Eaken's, Kelly's and Mathes', come! If you're a member, come with your family and bon ton roullé.

New Orleans, home of the French Quarter, Garden District, jazz and splendid cuisine, beckons you. Come visit us and enjoy an afternoon stroll through the French Quarter and Jackson Square, lined with artists displaying their work. Visit old St. Louis Cathedral, the Cabildo and Presbytere. Across the street from the Square stroll the banks of the Mississippi on "Moon's Walk." Meander along the Royal St. Promenade and peer into the antique and curio shop windows.

For an evening's entertainment, try Bourbon St. and jazz at Al Hirt's, Pete Fountain's, or Preservation and Economy Halls, to name just a few places where jazz may be felt, heard and enjoyed as nowhere else.

But what would a visit to the Queen City of the South be without food! Breakfast at Brennan's, followed by lunch at Galatoire's or any of the traditional eateries in the French Quarter is enjoyed by many a visitor. However, you may wish to try seafood at one of the many fine restaurants along the lakefront of the city or spend your evening dining at LeRuth's, where Crabmeat St. Francis is a house specialty, or choose Barb-cued Shrimp at Pascal's Manale Restaurant. For an evening in the traditional southern setting, you may like a steak at Elmwood Plantation, said to be one of the most attractive restaurants in America.

Planned activities by the New Orleans Ladies Auxiliary include a professionally conducted tour of three of the finest old plantation homes in the area on Friday, from 9:30 a.m. to 4:30 p.m. The tour calls for visits to homes upriver from the City at Hermitage house, built in 1812 and named after Andrew Jackson's home in Tennessee. Hermitage is a blend of Greek Revival classic and Louisiana Revival architecture. Houmas House, a Greek Revival mansion built in 1840 was once owned by John Burnside, who became America's prime sugar planter. Tezcuco, built in 1855, is a raised cottage with iron-laced side galleries and circular driveway beneath century-old live oaks and magnolias. The tour of these fine homes, including luncheon and air conditioned transportation, is $15.00 per person and may be made upon registration on Thursday, July 27, 1972.

If you continue to hunger for treats the City has to offer, why not invest carfare (15c) on the St. Charles Avenue Streetcar and take a leisurely ride up the oak-lined Avenue? From the window you can see some of the magnificent old mansions of New Orleans' Garden District with their spacious gardens and unique styling. The streetcar will also take you past Loyola and Tulane Universities and Dominican College in the University section, themselves rich in tradition and history of the area. Or, you may prefer to be aboard the steamer *President* and view the port from the top deck of this stately old vessel on its afternoon cruise up and down river from her dock at the foot of Canal Street, just riverside of the International Trade Mart. And speaking of the International Trade Mart, don't forget to ride the newly installed bubble elevator on the outside to the 30th floor observation deck for a not-soon-to-be-forgotten bird's-eye view of this City of Old World Charm and New World Ideas that have thrust it into the mainstream of America. Yes, the New Orleans Chapter of the Louisiana Engineering Society urges you to come to the LES-MSPE Annual Meeting in July and "let the good times roll."

LOUISIANA ENGINEER

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P. O. Box 2683, Baton Rouge, La. 70821

Area Code 504 344-4318

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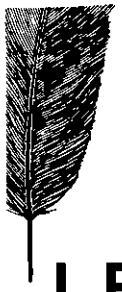


LETTERS
TO THE PRESIDENT

Dear Mr. Hogue:

Being a Life Member of the Louisiana Engineering Society and having been rather active in its affairs in previous years, I regret the necessity of writing a letter such as this. Our Society created a great deal of antagonism among many engineers by its proposed revisions to the Registration law. I am rather familiar with the defects of our present law, having written a good bit of the language of it in 1950. At that time, numerous compromises were necessary in order to obtain a comprehensive registration act (our previous registration act was one of the oldest in the country dating back to 1908 but covered only civil engineers and land surveyors) and I believe that the registration act can be greatly improved in the near future.

The changes which the Louisiana Engineering Society has proposed are not as comprehensive as they could be. Some of them (which I understand are to be abandoned) are a significant departure from our previous registration provisions and the enforcement of them, etc. The principal objection which has been expressed by many of my friends, and which I feel, personally, is not only that these proposed revisions were presented at such a very late date for consideration by our members, but principally that the proposed revisions were not handled jointly with the numerous other engineering organizations in the state. Although I agree with most of the proposed changes which I understand that our Society is now going to seek to have enacted, I think the matter has been handled in the wrong way.

For many reasons, the present legislative session is not a propitious one for revising a complex and highly technical act such as is our registration law. Next, much more comprehensive changes could be made which would greatly increase the effectiveness of the law. More important than either of these considerations, however, in my opinion, is the desirability of having all engineering organizations participate in the revision of the registration act. I know from previous experience that this is a lengthy task and if it is done properly it will be at least the next legislative session and possibly the following one before we have a revised law in proper shape, particularly since I know from experience that the legislators are not adequately familiar with this kind of a law and wish to have to the greatest possible extent agreement among all of the engineers affected by the registration act.

Reconciling individual viewpoints of representatives of different organizations takes a great deal of time and as I recall it I believe that our former Louisiana Council of Engineers had meetings over a period of about a year's time before getting Act 73 of 1950 in suitable shape of enactment. It has, of course, been amended several times since then.

On the matter of funds for lobbying activities, I regret that I cannot support the concept expressed in your letter of May 16, even though I fully agree that the members of our profession should be informed of bills which are before the Legislature which affect our profession and the status of them, and that we should be prepared either to support them or oppose them, as the case may be. The Construction Industry Legislative Council, representing the entire construction industry rather than only professional engineers, has been doing an excellent job and has a highly competent director. The Consulting Engineers Council of Louisiana has also a highly competent executive director and between them, it appears to me that they can develop necessary information about bills affecting our profession and the status of such bills. I have supported various undertakings of our Society financially in the past, but I cannot concur either with financial support or with support of several phases of the program set out in your letter of May 16.

I deeply regret the necessity of writing this letter but I feel that our Society has not handled matters properly this year and the views should be clearly stated, particularly since I know from numerous conversations that many of our members who are also members of other engineering organizations have similar feelings.

G. A. HEFT
New Orleans, La.

Dear Mr. Hogue:

Your letter of May 16 outlining Louisiana Engineering Society's legislative program for the current session of the legislature was very timely.

The activities of the legislative committee for the last session of the legislature were an outstanding success. Through the efforts of the committee chairman and the executive secretary, together with the Society's attorney, all bills concerning the engineering profession were handled successfully.

This session, the Society is proposing a program which will be beneficial to all engineers, both in and out of the Society. All members of the Society should work to help enact this legislation, both by giving financial support and by contacting their legislators.

With the support of the Society membership and other interested engineers we can again look forward to a successful program at this session of the legislature.

Yours very truly,
Ronald P. Cressy

Gentlemen:

Thank you for the information regarding proposed legislation in Louisiana with regard to raising registration fees. This matter of Connecticut fees has been discussed by the Ga. State Board of Registration for PE's and LS's as well as the Joint Professional Legislation Committee, of which I have been a member for several years.

Naturally we agree with your position. However, one item was introduced here which has some merit. Georgia has raised its renewal fee from $5 to $10. However, if the registrant is a non-resident then he must pay a fee equal to that in his home state, but no less than $10.

There is no question in our minds that boards for professions and trades should be separate entities. Only in this way can true professionalism be maintained between the professional groups, and common problems be resolved.

In Georgia, we have a law which permits the local governments to assess a professional an annual fee of up to $200. This is not the same as a business license which is based on the dollar volume. Professionals are not charged against their dollar volume.

I hope you are successful in overcoming this movement to raise the renewal fee in Louisiana.

CARL HAMMARSTROM
Atlanta, Ga.

Dear Mr. Hogue:

Although I am not a member of the Louisiana Engineering Society, I am in agreement with your memo of May 16, 1972, to all engineers registered in the State of Louisiana. Therefore, I am enclosing my check as a small contribution towards this purpose.

I appreciate your invitation to become a member of the Louisiana Engineering Society, but I am already a member of the Virginia Society of Professional Engineers and National Society of Professional Engineers.

I wish you the best of luck.

P. PORCHER GREGG, P.E.
Norfolk, Va.

Gentlemen:

Best of luck! Defeat the bill.

E. A. BURGUIERES, JR., P.E.
New Orleans, La.

Dear Mr. Hogue:

Attached check is self explanatory. Best wishes.

SAMPSON SMITH
Tallulah, La.

Dear Sirs,

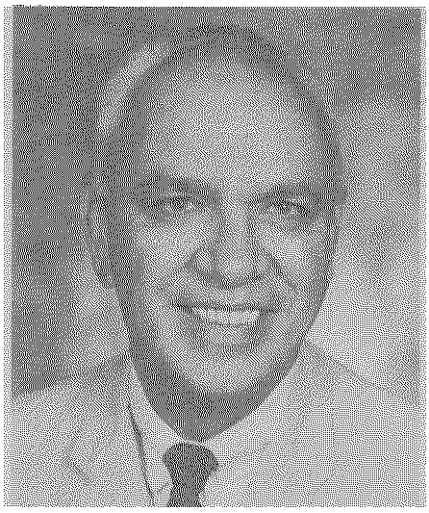
Thank you very much for your recent letter informing me of the possibility of a fee increase for licensed engineers. I am currently registered in Louisiana as an Engineer-In-Training. The possibility of a $100.00 fee outrages me and would force me to change my registration to another state. I will gladly write to my state legislators if you will tell me who to write to.

Thanks for informing me.

DON BERRY
Wichita, Kan.

PRESIDENTIAL PRIVILEGE

Trudeau J. Hogue, Jr.
President
Louisiana Engineering Society



As my administrative year as President of the Louisiana Engineering Society draws to a close, I wish to thank those who have guided our professional society during the past 12 months. Your Society officers, board members, and committees have devoted a large part of themselves to the profession, and I thank them and recognize them for their accomplishments.

Your Board of Direction has been the youngest in Society history. They have carefully weighed every matter that has come before them, studied every alternative, and in every case made a determination and moved to implement their decision. You can ask no more of any man.

When the administrative year started I said that in this era of explosive change each engineer had to use his personal knowledge to serve the needs around us. The leaders of our profession recognized that they had a vital obligation to serve the needs of our community, our state and our nation. We ask that you measure our accomplishments on this basis. At the start I asked that you make your own individual thoughts concerning the profession known to the Society. For the many hundreds of letters and the thousands of calls, I express appreciation.

The standing committees of our Society have made impressive accomplishments. As this goes to press Carl Heck, Jr., and his Legislative Committee are fighting for the survival of our registration law, and for the legislative package that your board deems to be in the best interest of the public. We asked for financial assistance and you have poured several thousand dollars into the fund. For this encouragement, we express our heartfelt thanks. You will be kept advised of results as they occur. Our tasks in these matters will not be complete until the Constitutional Convention completes its assignment in 1973, and until we implement our legislative package. Our sight is set on only one goal and that is success.

Al McKee has worked hard on our public relations program. He has been ably assisted by Hoyt Brown, Jack Bartlett and many others. John Vogt's Honors and Awards Committee has come up with a new award to recognize devotion and hard work for the profession. Ronald Boutte and his committee, assisted by Society leaders from all over the state, have worked very hard in

liaison with the State Board of Registration. Your Society owes much to the cooperation it has received from Waldemar Nelson, Andrew Moore, Ben Bogard and Dan Vliet. These distinguished men have ably assisted this administration.

Jack Groh and his able Education Committee have done so much to implement the Engineering Education Study that was presented and accepted by the Coordinating Council of Higher Education in Louisiana. The report was so well received that Tulane University and its alumni asked that a supplemental report be made to include the Tulane School of Engineering and this was accomplished. Our close work with engineering technicians has been continued through the efforts of Ken Deal and his committee throughout the state. This year our Society had more cases in Ethics and Professional Conduct than ever before. Len Denson and his committee worked long and unselfishly and they deserve special thanks and consideration. Larry Grundmann and his committee have made substantial progress in the field of inter-society relations; more is being made as this goes to press. No one has worked harder for their profession in the past year than Buddy Moncla and his fine membership committee. They deserve our special thanks and recognition for again bringing to the forefront the importance of membership in LES and NSPE. Glynn Gautreau and his Vocational Guidance Committee have done much to challenge our young people who are considering an engineering career.

There were many task forces that were assigned to individual problems of special need. We cannot let this year pass without paying tribute to the people who provided solutions. Mac Hurstell and his team completed a long study on engineering salaries in government, industry, education and private practice. This study will serve as a milestone for the future. Jim Janssen, with the aid of all the functional section chairmen, took a long, hard look into the whole problem of ethics in the profession, with the special purpose of bringing justice and equal treatment to all qualified members of the profession and the public. They have finished the study and made their recommendations.

Ronald Cressy and a special team have made substantial progress in designing an insurance program that will save all members of the Society a substantial portion of their annual premiums. As this goes to press the proposal is being polished and measured for presentation to the Board of Direction.

Farrell Adams researched the archives and history of our Society for many months and has published a comprehensive history of policies and procedures adopted by the Board. This work is most valuable and we are indebted to this dedicated individual.

There is a tremendous need to assist young people who are in our engineering schools throughout the state. Jim Meyer felt that we had an obligation to assist students in summer employment and Jack Thigpen has organized, with able assistance in every chapter, our first summer program. Some 50 young future engineers will be given an opportunity to earn and learn through actual job experience this year.

The strength of our society is in the individual chapters and the functional sections. This is where most of the work is accomplished and functional section chairmen and chapter presidents have been outstanding. The 500 able and dedicated people who have served their Society and their communities in positions of leadership are recognized with appreciation.

In summary, our Society in Louisiana has never been more active. It is young in its thinking and realization that much more remains to be accomplished. We dedicate ourselves to make each succeeding year more productive.

To Hoyt Brown and the elected leadership for 1972-73, we pledge our support.

PROFESSIONAL ENGINEERING SCHOOLS

DR. RANDALL F. BARRON
Professor
Department of Mechanical Engineering
Louisiana Tech University

Graduation from a 4-year college does not give the fledgling lawyer the right to practice law. Before he can "hang up his shingle," he must graduate from Law School — a professional school, controlled by the legal profession itself. The aspiring doctor must complete Medical School after he graduates from a "regular" college.

No one disputes the professional status of the lawyer or doctor; yet, the engineer seems to be on the defensive at times to prove his rightful status as a professional. Some educators have suggested that "professional engineering schools" should be established, and these schools should be accredited and controlled by the engineering profession through a single society to achieve professionalism in engineering.[6]

Because of the complexity of directing or conceiving technical systems, it appears that future engineering training will involve study beyond the traditional baccalaureate degree. The American Society for Engineering Education **Goals Report** (1) has suggested that the M.Sc. degree should be the "first professional degree"; however, there appears to be a need for two types of individuals with comparable engineering training at this advanced level: (a) the person who is research-oriented, as prepared by the traditional M.Sc. and Ph.D. degree, and (b) the person who is practice-oriented, as prepared by the emerging "professional school" programs.

Characteristics of Professional Schools

Dean M. R. Lohmann, Oklahoma State University, has made a study of the accreditation criteria for professional schools of law, medicine, nursing, pharmacy, architecture, dentistry, and veterinary medicine.[5] He concluded that there were five characteristics common to each of those professional schools:

(a) Admissions criteria were established which were unique to the professional college and not tied to any policy (such as open admission of in-state students) common to a public university.

(b) Faculty members had significant professional experience in their fields, and they maintained their professional competence by practice.

(c) Intern or professional experience under the jurisdiction of the professional school was required before the student was accepted as a full-fledged practitioner of his profession.

(d) The profession itself had jurisdiction over the professional school curricula and professional degrees.

(e) The professional school had a separate budget which allowed the school to be autonomous within any associated institution, such as a university.

While not all of the characteristics were found in all of the professional schools studied by Dean Lohmann, these five characteristics were found to be common to most of the schools. It is these five characteristics which seem to differentiate the professional school from an undergraduate college or a graduate university.

Traditional engineering schools which are a part of a university must admit any student who meets the university admission requirements. As a result of this admission policy, the student attrition is high, especially during the freshman and sophomore years. The professional schools generally require two or more years of collegiate preprofessional study. A candidate is then admitted to the professional school only after showing that his qualifications meet the unique standards of the professional school.

Faculty of most professional schools either have practiced their profession for several years or actively practice their profession along with their teaching duties. The faculty of a medical school, for example, often serves on the staff of the "University Hospital," or have their own private practice in addition to meeting classes. At present, engineering faculty do not practice (consulting, industrial work, etc.) as extensively as is done in the other professions.

Although the extent and kind of experience varies widely, all professional schools do provide their students with an experience under conditions similar to those they will encounter in practice. Engineering curricula include laboratory courses, design projects, etc., but the engineering student is generally not exposed to real-life engineering projects to the extent that other professional school students are.

Faculty and Programs

A truly professional engineering program would require many of the traditional academic courses as well as practice-oriented courses of an entirely different nature. To develop and teach these courses, the engineering faculty would need non-academic experience in the **practice** of engineering. This experience could be obtained in engineering consulting, as distinguished from consultation in research alone, or by full-time practice of engineering in industry at a responsible level. At present, engineering schools encourage their faculty to consult up to approximately 15% of their time. A faculty fellowship is sponsored by the American Society for Engineering Education and supported by the Ford Foundation to allow a small number of engineering faculty to work for fifteen months at a responsible level in industry.

In addition to practicing engineering, the professional school faculty would exhibit their pro-

fessional stature by engineering licensure, participation on engineering advisory boards, publishing papers on practice-oriented topics, and service on committees and boards of engineering organizations.

Professional engineering programs would require enough humanities and social science courses to make the graduate engineer sensitive to the needs of society. It would be necessary to include material in the basic physical and biological sciences to serve as a foundation for the engineering design courses. A minimum of one year's study in mathematics beyond differential equations would be needed, as well as an introduction to personnel management, leadership, and professional ethics. The curriculum would be flexible so that the student could choose as much as 50% of his course work, within certain rather broad categories. The curriculum would emphasize engineering design of components and systems to prepare the engineer to be a practitioner at an advanced level. The school would be organized along an interdisciplinary structure (not organized by departments, such as Mechanical Engineering, Electrical Engineering, etc.). Because not all of the educational experience can be presented in an academic environment, a meaningful industrial internship would be required, in addition to the academic courses.

Present Professional Schools

There are several schools presently considering the "professional school" organization. Midwest School of Engineering, established in 1967 in Illinois, is one such professional engineering college modeled after medical and law schools.[2,4] Students must have already received the equivalent of their freshman and sophomore work before enrolling at MSE for a bachelor's degree. MSE also offers the M.Sc., professional, and Ph.D. degrees.

Almost all of the students at MSE are employed in engineering and are studying for advanced degrees. All faculty members are engaged full-time in their own consulting practices or in industry. This dual involvement of the faculty is fundamental to the school's philosophy of operation. In addition, the "cost per degree-hour" is considerably lower than conventional engineering schools using full-time faculty. To accommodate the faculty and students, classes are held only during the evenings and on weekends.

Midwest School of Engineering is accredited by the Illinois Society of Professional Engineers; however, the North Central Association of Colleges and Secondary Schools (a regional accrediting agency) is also considering the school for accreditation.

Oklahoma State University is beginning a professional engineering school as shown in Figure 1. Students are admitted to the preprofessional school with the same admission requirement as for general university admission. After approximately two years of study, the student applies for admission to the professional school. Special admission criteria are applied at this point, including the requirement of a grade-point average of 2.3 or higher. There is a second admissions point after approximately two years of professional school study, at which time an undesignated Bachelor of Science in Engineering certification is awarded at the option of the student. After approximately one year of graduate professional study (with no research thesis requirement), the student is awarded a designated Master of Engineering Degree.

Other schools presently offering the professional engineering school approach include: Dartmouth—Thayer School of Engineering, Rensselaer Polytechnic Institute, University of Louisville Speed Scientific School, and University of Detroit.[2]

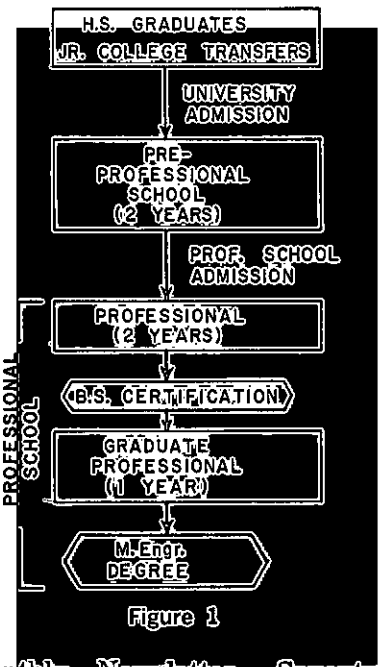


Figure 1

LES Survey

To sample the opinions of Monroe Chapter LES members on professional engineering schools, a questionnaire was mailed to them along with the monthly Newsletter. Seventy professional engineers in northeast Louisiana responded to the questionnaire. The distribution of the employment areas of the respondents is shown in Figure 2, and the tabulated results of the survey are given in Table 1.

The engineers who returned the questionnaire were generally in favor of the concept of the professional engineering school, because approximately three-fourths responded in the affirmative to the question of whether these schools should be established. On the other hand, about one-fourth of the engineers in education favored the traditional engineering school approach. One engineer in education had the following comment about the question of establishing professional engineering schools:

> Perhaps the answer is to work toward the time when an engineer as a full-time industrial employee will be as

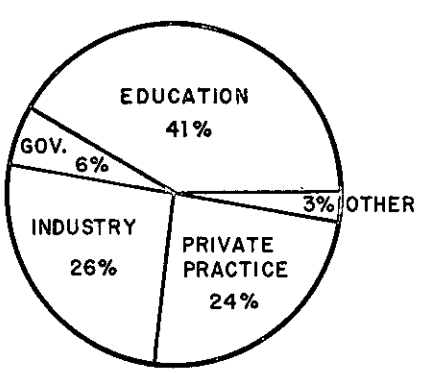


Figure 2

TABLE 1. Results of questionnaire to Monroe Chapter LES on Professional Engineering Schools (May, 1972).

Engineers in Education	41%
Engineers in Government	6%
Engineers in Industry	26%
Engineers in Private Practice	24%
Other (Executives, etc.)	3%

QUESTIONS AND RESPONSES	Engineers in Education %	Engineers in Non-Academic Areas %	Combined Responses %
1. Do you favor the "professional engineering school" concept over the present organization of engineering schools?			
Yes	69	76	73
No	28	14	20
No opinion	3	10	7
2. Should a one-year internship be required in a professional engineering school?			
Yes	62	68	66
No	17	15	16
No opinion	21	17	18
3. Should the professional engineering school be organized along the lines of:			
A departmental structure (EE Dept., ME Dept., etc.)	62	61	61
An interdisciplinary structure (no depts.)	31	39	36
Other	7	0	3
4. What percentage of his courses should the engineering student in a professional school be allowed to choose?			
5% (6 to 9 hrs.)	10	7	9
10% (12 to 18 hrs.)	28	41	36
20% (24 to 36 hrs.)	48	37	41
50% (60 to 75 hrs.)	14	15	14
5. Which ONE of the following areas should be emphasized more in the professional schools than in the present engineering schools:			
Basic physical and biological sciences	14	3	7
Engineering design of components and systems	69	46	56
Management	14	41	30
Mathematics	0	0	0
Social Sciences and humanities	0	7	4
Other	3	3	3
6. Should the professional engineering schools establish enrollment limitations, similar to the Medical and Law Schools?			
Yes	76	61	67
No	24	27	26
No opinion	0	12	7
7. Which ONE characteristic of faculty members is most important for a professional engineering school faculty?			
Several years experience in engineering consulting	17	29	24
Full-time experience in non-academic engineering work	24	27	26
Teaching ability	42	39	40
Membership and service in professional societies	3	2	3
Other	14	3	7
8. Would the establishment of professional engineering schools better meet the needs of society for competent engineers than would the establishment of the M.Sc. degree as the "first professional degree," as suggested by the ASEE Goals Report?			
Yes	62	59	60
No	28	7	16
Neither would adequately meet needs	3	5	4
No opinion	7	29	20
9. Would the establishment of professional engineering schools enhance the image of the engineer as a professional in the viewpoint of the general public?			
Yes, would improve image	72	85	79
No, would degrade image	0	0	0
Would have no effect one way or the other	28	15	21
10. Would the establishment of professional engineering schools bring about the unification of the engineering profession after a period of time?			
Yes	69	85	78
No	14	5	9
Would have no influence	17	10	13

rare as the lawyer or physician so employed now. Until the majority of engineers are self-employed, we will remain less than a profession.

This would change the nature of the engineer and his utilization. The present system works most of the time, except in recessions. The question is: "Do we really want to be professionals, and are we willing to take the risks and pay the cost involved?"

If professional engineering schools were established in Louisiana, two-thirds of the engineers in the survey felt that a one-year- internship should berequired of the students. Engineers in education and engineers in non-academic areas agreed that the professional school should be organized along departmental lines, similar to the present engineering schools, instead of utilizing the interdisciplinary structure with no departments. Some people felt that a combination approach, involving some crossing of departmental lines, would be best. Although some degree of generalization was needed, the respondents felt that the field of engineering was so broad that specialization was required to train the young engineer effectively. In spite of the need for specialization, the respondents felt that the student should be allowed to choose from 10% to 20% (12 to 36 hours) of his course work in the professional school. One engineer in private practice had the following comment about the structure of the professional engineering school and the degree it offers:

> I feel that there should be only one degree conferred by a professional engineering school, and that only one registration (such as "Registered Professional Engineer" be granted. The special proficiencies could be tacked on the end and approved by the Board of Registration on the basis of competency. This suggestion is not practicable or desirable, however, unless all of the state comply. Presumably, by the time a student has

completed his studies successfully, has graduated, and has been registered, he should have been taught his responsibilities and liabilities and will work within the confines of his competence.

There was some disagreement between the engineers in the different areas of employment as to the type of material which should be emphasized more in the professional engineering schools, as illustrated in Figure 3. Engineers in education felt that engineering design of components and systems (particularly system design) should be emphasized more, and engineers in private practice agreed on this point. Engineers in industry, however, felt that management topics should be emphasized. It is interesting to note that none of the groups felt that mathematics should be stressed more than is done in engineering schools today.

One engineer in industry had the following feelings about the engineer's training:

> The engineer today is, in general, too much technologist and not enough humanitarian. The areas of law and medicine strongly stress a responsibility to the general public as well as the client and present an image of service for the betterment of mankind. Only when the engineer is seen as one who is striving for the betterment of all mankind and only when the engineer sees his responsibility to all mankind will engineering truly become a profession.

This person felt that professional engineering schools should be established. He also felt that the student should be allowed to choose freely about 50% of his courses, and the humanities and social sciences should be stressed more strongly than in present engineering schools.

Teaching ability was felt to be the one factor which was most important for a professional school faculty (according to 40% of the respondents) although the engineers in non-academic areas felt that experience in engineering consulting and industrial work was also important. One person said that the faculty member should possess **all** of the characteristics listed in Question 7, and that no one characteristic was more important than any of the others.

Most of the respondents felt that the professional school approach was better than the suggestion of the ASEE *Goals Report* to make the M.Sc. degree the first professional degree, although 28% of the educators liked the ASEE suggestion, and 29% of the engineers in non-academic areas had no opinion on this question.

There was general agreement that the establishment of professional engineering schools would enhance the image of the engineer as a professional and would eventually bring about a unification of the engineering profession.

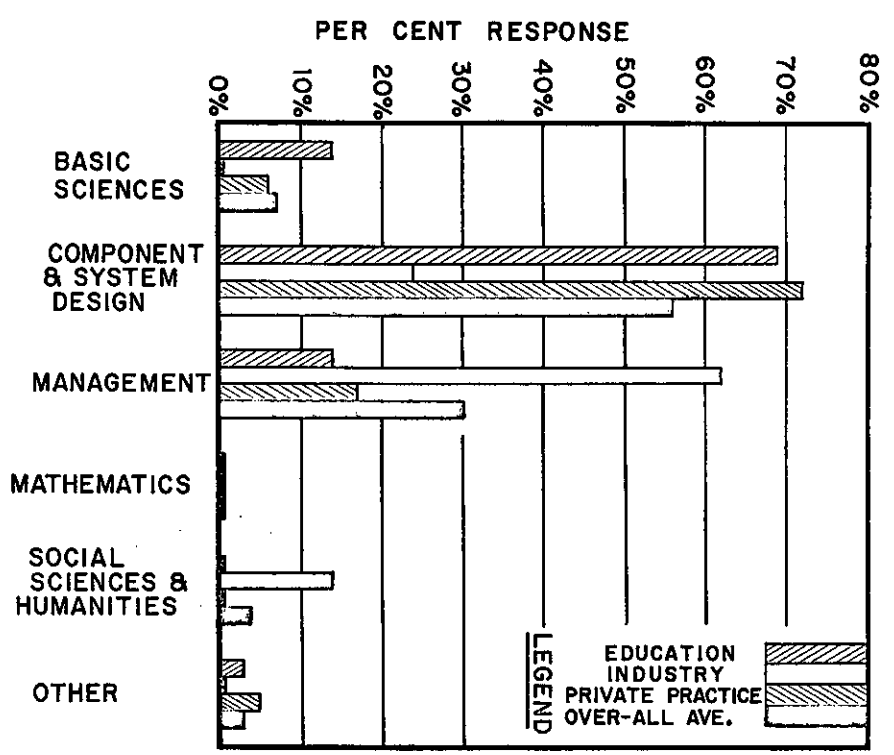


Figure 3

Conclusion

It may be concluded from the questionnaire results that the engineers who responded felt that the concept of establishing professional engineering schools in Louisiana should be explored further. This is an area of activity in which the Louisiana Engineering Society should take an active role, if the professional engineering schools are to be under the jurisdiction of the engineering profession. Professional schools are being established in our neighboring states (Oklahoma and Texas, for example), and engineers in Louisiana should be a part of their changing profession and its educational programs. Dean M. R. Lohmann, Oklahoma State University, has said that:

> No vocation has achieved high professional status in the eyes of the public without first developing a unique educational program—a professional school—to educate the practitioners of that vocation.

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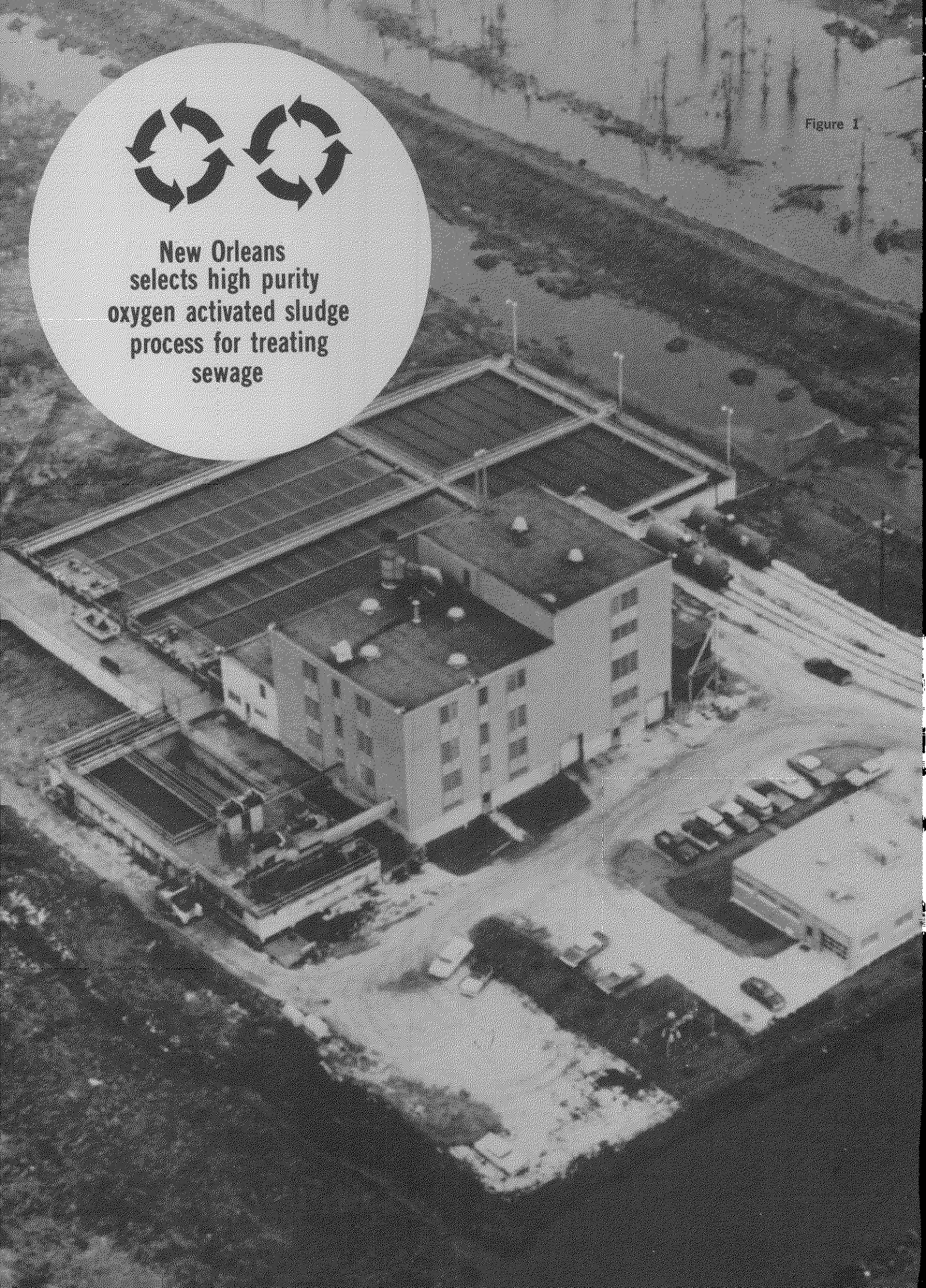


New Orleans selects high purity oxygen activated sludge process for treating sewage

Figure 1

G. JOSEPH SULLIVAN, P.E.
General Superintendent,
New Orleans Sewerage & Water Board

EARL S. DOBBS, P.E.
Manager Environmental Engineering
Waldemar S. Nelson & Company, Inc.

FRANK W. MACDONALD
Chairman & Professor, Environmental
Health Department, Tulane University

In 1964 the New Orleans Sewerage and Water Board constructed a plant for primary treatment of the sewage collected from a portion of the City of New Orleans on the east bank of the Mississippi River. This initial facility, known as the East Bank Sewage Treatment Plant, was designed for a capacity of 23 MGD. It is located in the southeast part of New Orleans with the entrance on Florida Avenue. The facilities included at the existing plant consist of two inlet screens, two grit basins, and two rectangular primary clarifiers. Figure 1 is a picture of the existing plant. The effluent from the primary clarifiers is chlorinated and discharged through force mains to the Mississippi River. The settled solids from the clarifiers are dewatered by solid bowl centrifuges and then fed to a furnace for incineration.

The firm of Waldemar S. Nelson and Company, Ltd., Architects and Engineers, was retained in January 1970 by the New Orleans Sewerage & Water Board to design the facility that will be required to provide complete treatment of the sewage to be received at the East Bank Plant. The facility was required to have an average dry weather flow rate of 122 MGD. The sewage to be treated has a biochemical oxygen demand (BOD) of 200 mg/1 and suspended solids of 250 mg/1. The treatment processes to be provided are required to provide for 85 percent reduction of the BOD and suspended solids.

In a preliminary engineering study performed in 1963 the modified activated sludge process was recommended for the treatment of the domestic sewage of the City of New Orleans. This is one of the most efficient of liquid waste treatment methods. It consists of an aerated reaction system in which biological flocs (activated sludge) are mixed with the incoming liquid wastes. In the treatment of domestic sewage, screening and degritting is usually provided at the head end of the plant. The sewage is then discharged into a tank where it is mixed with the biological flocs and aerated for several hours. The biological floc is composed of microorganisms which utilize the suspended and dissolved organic wastes as a source of food. These microorganisms or biological flocs are obtained from clarifiers where they have settled out as sludge and are discharged back to the aeration tank.

Until recently atmospheric air was the normal method of providing the aeration in the activated sludge process. The three main types of atmospheric aeration systems are as follows: compressed air discharged through submerged diffusers, submerged turbine units, and surface type mechanical aerators. These three systems are considered for the expansion of the East Bank Treatment Plant. A design utilizing surface type mechanical units was evaluated in detail. These units depend on turbulence between the air and the liquid interfacial area for transfer of oxygen. The solubility and diffusivity of atmospheric oxygen in water are both low, and substantial amounts of energy are needed to effect the mass transfer rate.

As the studies of the activated sludge process were in progress, a new system using high purity oxygen gas in the aeration of liquid wastes in lieu of atmospheric or compressed air was noted. High purity oxygen had been used experimentally in research in the past and results showed high BOD removal efficiencies with shorter retention times. In 1969 the Linde Division of Union Carbide Corporation used high purity oxygen on a research project at the activated sewage treatment plant of Batavia, New York. As a result of this relatively large scale study and the excellent treatment that was obtained, the Linde Division has developed and patented a high purity oxygen system known as the UNOX process. Indications are that the UNOX process could effectively treat sewage and could save from 10 to 40 percent of capital and operating costs.

To evaluate the possibility of using the UNOX process in treating the sewage in the City of New Orleans, a pilot plant study was made during a period extending from December 1970 through May 1971. The pilot plant was a complete treatment plant mounted in a trailer type van. Figure 2 shows the pilot plant used in the study. It consisted of a secondary treatment system using the activated sludge process. The system included screening and grit removal, then treatment in reactors with high purity oxygen, and finally clarification of the efflu-

Figure 2

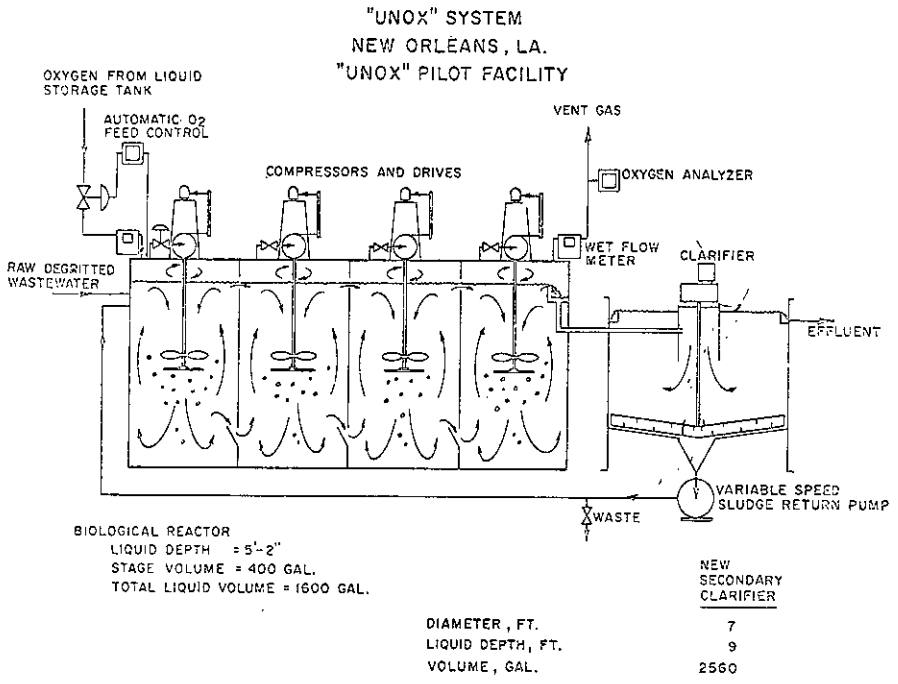


Figure 3

ent to remove the sludge. Figure 3 is a schematic diagram of the unit. The design flow for the plant was 15 gpm. The pilot unit is similar in design to the large scale UNOX system used for the treatment of liquid wastes.

It may be noted from Figure 3 that the aeration tank referred to as a reactor is covered and divided into four compartments or stages. Oxygen is fed into the first stage under slight positive pressure. The dissolved oxygen (DO) is maintained by means of probes and maintained at a concentration of approximately 7.0 mg/1. A small compressor on each reactor stage pumps the oxygen contained in the air space above the liquid down through a hollow shaft to which is attached a sparger/impeller. This equipment introduces the oxygen into the lower depths of the liquid in the stages and the impeller serves to mix the liquor, preventing settling in the units. Recycled activated sludge collected from the clarifier is introduced and mixed with the incoming raw sewage in the first stage. Oxygen and mixed liquor pass from each successive stage through openings in the baffle walls.

At a design flow of 15 gpm the retention period in the reactor was 1.8 hours. The clarifier at this flow rate had an overflow rate of 645 gal/sq. ft./day. For the period of the operation, the raw sewage BOD averaged 210 mg/1 and the suspended solids 183 mg/1. Oxygen consumption averaged 0.8 pounds per pound of BOD. The oxygen utilization in the reactors averaged about 92%.

The BOD removal efficiency of the pilot plant was greater than 90% under all conditions of flow with an average of 93%. On some days the pilot plant reached peak removal efficiencies of 95%. Suspended solid removal ranged from 87% removal to a maximum of 93% with an average removal of 90%. Return activated sludge (biological flocs) ranged from 23,100 mg/1 (2.31%) to 32,000 mg/1 with an average of 26,000 mg/1.

In the course of the process of evaluating various systems, visits were made by the design engineers to sewage treatment facilities throughout the United States and Europe. These included visits to activated sludge treatment plants where both atmospheric air and high purity oxygen were being used in aeration. Conferences were also held with staff personnel who planned and operate the plants. As a result of the investigation of the various types of treatment processes, the New Orleans pilot study, and an evaluation of projected costs of construction and operation, the activated sludge process using high purity oxygen for aeration was selected as an efficient and economical method of treatment to be used for the New Orleans East Bank expansion.

Among the advantages of the use of the high purity oxygen system over atmospheric air aeration are the following:

a) The efficiences will be higher and during average flows the BOD reduction will be in excess of 90% and the suspended solid removal will be about 90%.

b) The process is better adapted to accommodate variations such as those caused by diurnal cycles, sewage strength fluctuations and wet weather flows.

c) The high residual dissolved oxygen in the sewage discharged to the clarifiers reduces the likelihood of the sludge becoming septic and from bulking occurring.

d) Return activated sludge requirements for the process will be less with a resulting reduction in pump sizes, conduits and horsepower requirements.

e) The concentration of solids in the waste sludge will be higher than other systems. This will permit more economical disposal of surplus activated sludge.

f) The amount of waste activated sludge produced by this process is significantly less than other systems.

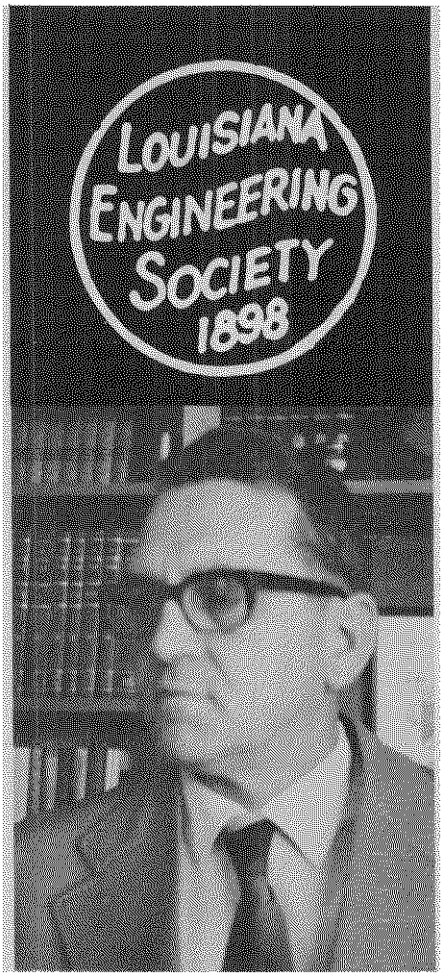
g) Plant effluent will be lower in organic matter and will have a corresponding lower chlorine demand. This will result in an operating cost saving for the amount of chlorination required for disinfection of the plant effluent.

h) The system requires much less space for the aeration tanks than that needed for other processes.

i) The operation costs of the system will be lower than for other systems.

j) The system will be relatively simple to operate and can accommodate shock loading better than other systems.

What does the Society do for me?



E. E. "BUDDY" MONCLA
State Membership Chairman

As your State Membership Chairman I feel that there is much to be said about membership in the Louisiana Engineering Society. What prompted this article were the numerous questions I have received from non-members and members alike asking: "What does the Society do for me?"

My normal tendency is to answer this question with a question, "What have **you** done for the Society?"

I know that the vast majority of the people who ask this question are not familiar with the Society and therefore, have limited involvement in the functions of his professional society. A true LES member will, of course, explain and enumerate the Society's continuing work on salary studies, guidelines for contracts, engineering education, work in the state Legislature combating harmful legislation and obtaining passage of Society-sponsored legislation, assembling technical information, promoting young engineers, honoring and awarding the outstanding engineers of our Society, and fellowship with engineers on both a local and state level.

Besides striving to upgrade the profession and keeping the engineer informed, the LES has many enjoyable social functions for you, your wife, and your guests. We know that every engineer has a solemn obligation to actively interest himself in matters of concern to his profession, and that the most effective way to accomplish this is by being a participating member of his professional society.

To better serve all of the members, our state is divided into chapter areas with chapter officers elected by local members. These chapters are as follows: Alexandria, Baton Rouge, Bayou (Morgan City area), Lafayette, Lake Charles, Monroe, New Orleans, and Shreveport.

On a state level, the LES officers are elected by the membership with the president from each chapter serving on the Board of Directors. We maintain an office in Baton Rouge with a full-time Executive Secretary for administering Society affairs.

It is becoming more and more apparent to engineers that if they are ever to realize the professional, economic, and social goals which they desire, they must first attain unity. By way of comparison with other professions we find the following percentages on a national level who are members of their professional societies: doctors 82%, lawyers 44%, dentists 95%, accountants 70% and engineers only 22%. Yet on dues comparison we do not find support for the above; yearly dues for these professions are as much as $145 above those for a member in the Louisiana Engineering Society. There are 2,500 members in our Society but the disheartening fact is that there are 2,700 registered engineers residing in Louisiana who are not members of their professional Society, and you non-members are the ones I am hoping to communicate with.

For those of you who are members of the Society, please assist your profession by giving this message to your non-member fellow engineer. You may be a member of your technical society but you are desperately needed by the one society which represents all of us. You are all very familiar with the fact that in a democratic society success is by numbers and we urgently need all professional engineers as members of one society. There can be no doubt that the greater the membership, the stronger the Society will be and the more the Society can do for the profession, the nation, the public, and you.

Engineers are basically individualists and like to exercise their individual prejudices, but the statement is made, "Maybe the time has come when we can no longer afford that luxury and while we may not like the restrictiveness of membership it is more desirable than to have engineering degenerate into a trade dominated by unions." Membership in our Society is reasonable and voluntary, as it should be, and not mandatory and expensive as it is in some of man's other occupations and professions. Let's all please join in and keep it that way. I am very proud of my profession and will continue to give it my full support. Will you?

LEGISLATIVE REPORT

The Louisiana Engineering Society has pursued vigorously the legislative program adopted by the Board of Direction for this 1972 Regular Session. Carl Heck, Jr., chairman of the L.E.S. Legislative Committee, outlined the program before the House Commerce Committee and had a number of engineers to testify.

The objective of the entire legislative package has been to strengthen the engineering and surveying profession in the state by raising the minimum requirements for registration and bring the law into line with other states which have adopted the model registration law.

In addition, the L.E.S. Legislative Committee has served as the watchdog for the profession and has been successful in defeating a number of bills which would have adversely affected engineers. The Society was instrumental in defeating Senate Bill 24 which set a $100 annual minimum fee for licenses. Also, Senate bills 640 and 699, to consolidate the State Board of Registration with 40 other boards, is apparently dead for this session. House Bill 412, which provides that the Registration Board will have to deposit all license fees in the state treasury, has passed the House. L.E.S. will propose an amendment to the bill in the Senate Committee to remove professional organizations from the provisions. House Bill 208, which advocated "hold harmless" clauses in construction contracts by contractors, was defeated.

The Land Surveyor bills, introduced by the Louisiana Land Surveyors Association and L.E.S., passed the House and are in the Senate, except House Bills 637 and 639 which still await House action. The reception in committee was excellent and no problems are anticipated with any of these bills.

The engineering bills introduced by L.E.S. to upgrade the registration law (House bills 976 thru 982) were heard in the House Commerce Committee. The bills were opposed by A.S.C.E., C.E.C., La. Architects Association and the Construction Industry Legislative Council. Despite the opposition, House Bill 976, 977, 978, 980 and 981 were reported favorably by the committee.

As of this writing, the bills were scheduled for a vote on the House floor. In addition to the opposition mentioned, the bills were opposed by South Central Bell and a new group calling themselves "Engineers for Political Action." This group had no affiliation with L.E.S. Through their efforts, the bill to establish a code of ethics for professional engineers and land surveyors was defeated. The remaining L.E.S. bills are still in the House of Representatives awaiting a vote.

L.E.S. has gone to great lengths in time, effort and money to solicit expressions from all engineers on means to upgrade the profession in the state. The organization will continue its efforts and work for the betterment of engineers.

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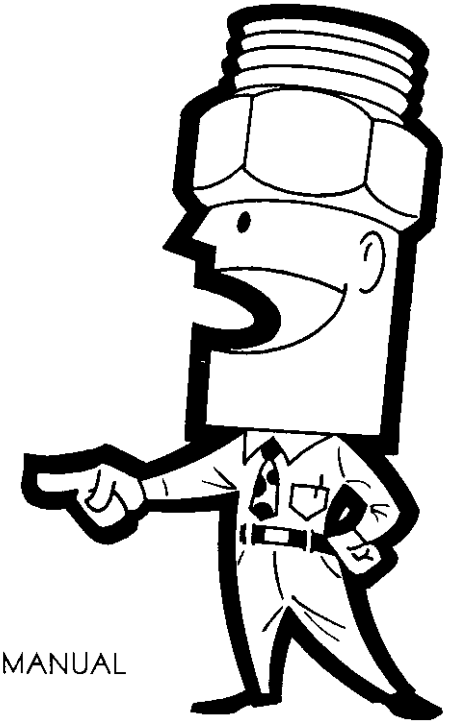

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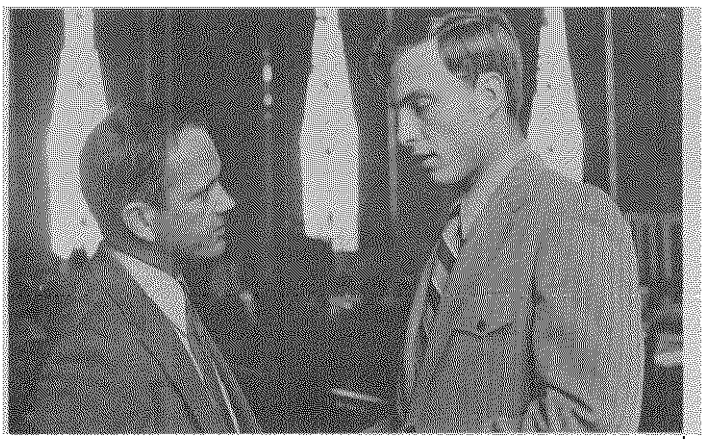
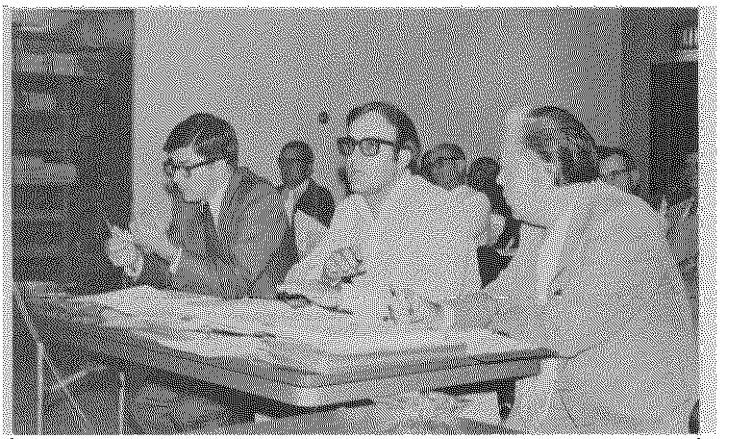
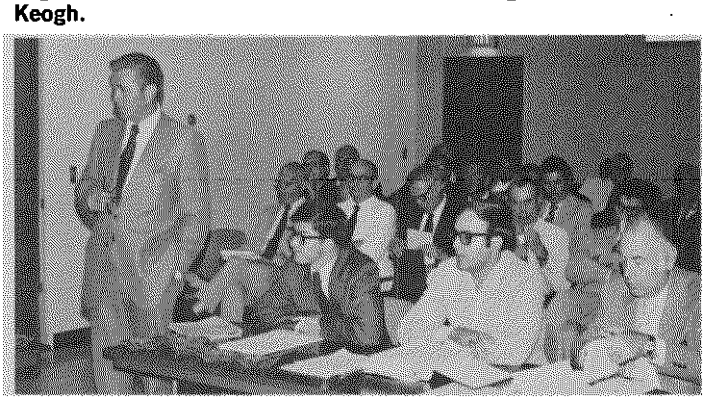


LES Executive Secretary consults with Representative Richard H. Baker of Baton Rouge.



Testifying before the House Commerce Committee on behalf of LES are Representative Morris A. Lottinger Jr. of Houma, Legislative Chairman Carl Heck Jr. and Legal Counsel Joe Keogh.

LES President-Elect Hoyt Brown makes remarks to members of the House Commerce Committee.



Lamon Moody addresses the Commerce Committee.

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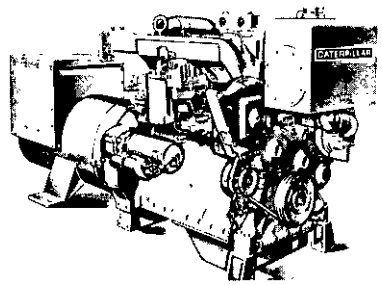

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LES SALARY STUDY

Editor's Note: Previous editions of the LOUISIANA ENGINEER have reprinted the Salary Study Committee's general report and the report on Engineers in Government. This report outlines the findings on Engineers in Industry.

Mr. T. J. Hogue, State President
Louisiana Engineering Society

Dear Mr. Hogue:

The L.E.S. Engineering Salary Study Committee has completed the mission assigned to it by the Board of Directors on May 22, 1970, and herewith submits its final report to you.

The Committee has done considerable research and has discussed many new, far-reaching, and controversial concepts in the preparation of this report. In order to give the Board of Directors the benefit of this information and research, most of the material is included in this report. We ask that the Board read, digest and evaluate the material and recommendations contained therein and make its own determination if any, or all, of the report should be published to the membership and if any, or all, of the recommendations made should become the official policy of the Society.

It should be noted that there were several areas in which there was honest and respectful disagreement among the members of the Committee. Many of these areas are income-related, but should be studied in detail as separate subjects.

However, the Committee is in complete agreement on these major recommendations:

1. The L.E.S. Board of Directors should make it clear that the economic status of its members is one of the Society's primary concerns.
2. The L.E.S. should adopt the salary schedule program contained in Attachment 2 of this report.
3. The Engineering Salary Study Committee feels that its mission has been completed and recommends dissolution of the Committee. However, to continue this important work, the Committee recommends formation of committees as follows:
   A. **Economic Status Committee** —This should be a permanent committee responsible for research and studies relating to the economic status of the engineering profession, especially in the area of comparative salaries with other professions, trends in fringe benefits, stability of employment, determining average starting rates, etc.
   B. **Ad hoc committees, or subcommittees of the Economic Status Committee**, to address themselves in detail to current major or controversial problems, which developed diverse opinions among the members of the Salary Study Committee, such as accreditation of employers, pension plan portability, position evaluation consultation to employers, etc.

The Committee thanks the Louisiana Engineering Society for being given the opportunity to serve in this most interesting and challenging assignment.

Very truly yours,

M. L. Hurstell, P.E., Chairman
L.E.S. Engineering Salary Study Committee

Members: H. L. Henry, Jr., P.E.
F. M. Heroy, Jr., P.E.
L. L. Moody, Jr., P.E.
J. W. Roach, Jr., P.E.
R. A. Mouton, P.E.

VI. ENGINEERS IN INDUSTRY

1. General

Over half of the membership of the Louisiana Engineering Society practices in industry. The 1970 survey of "Professional Income of Engineers" as published by the Engineering Manpower Commission of the Engineers Joint Council constituted a sampling of 230,064 engineers. If the sampling is divided into the four practice sections found in L.E.S., the study would represent approximately 78% industry, 13% government, 5% private practice and 4% education. Of the industry portion the principal groupings are in manufacturing with a total of 62% of all engineers sampled, consisting mainly of 19% electrical equipment, 17% aerospace, 11% electronic equipment, 6% chemicals and 4% petroleum; non-manufacturing groups included 6% electric utilities, 6% research and development, and 3% construction.

This means that general salary trends and starting salary levels are greatly influenced by industrial employers. It also leads the Committee to the conclusion that industry must take the lead if Committee-recommended salary scales are to be implemented, and other areas of employer-employee relations are to be improved.

2. Salaries in Industry

An examination of the table of comparative salary ranking of various sectors of engineering contained in Section IV of this report shows that

engineers in manufacturing industry hold second place at all experience levels with salaries above the average for all engineers; however, engineers in construction and electric utilities fall below the average for all engineers at every experience level. Additionally, all engineers in industry exhibit the salary compression so prevalent among engineers. This committee therefore recommends implementation of the recommended grade level designation and income schedule contained in Attachment No. 2 of this report for all Louisiana engineers in industry.

3. Some Problems Peculiar to Engineers in Industry

A. Professionalism

Most engineers in industry fall in the gray area between management and employee. Engineers, because of their code of ethics and because of their very nature and training, have great loyalty toward their employers. Enlightened employers recognize this quality of engineers and, in turn, treat them in a professional manner. This would include proper use of engineer titles, suitable professional duties, satisfactory working conditions and facilities, and recognition of other professional aspects as outlined in Section III.5. of this report. Engineers recognize when they are treated like high-priced labor, and they know when they are taken advantage of; a wise company would avoid doing either.

There has been much discussion in professional journals relative to a loss of communication between engineers and management. Concerned companies should greatly improve upward and downward communication with their engineers. Many citizen groups, especially in the environmental field, have given the engineering profession the stigma of being insensitive to the problems of the world. Some companies contribute to this by not encouraging their professionals to speak out on issues confronting the company. Some engineers even feel that the offering of an opinion, much less a mild dissent, would characterize them in the corporate mind as an "odd-ball" or a threat. This is especially surprising in that management usually solicits, and is constantly bombarded with, opinions and criticism from organized labor.

B. Engineering Registration

No program of professionalism or implementation of recommended salary schedules can succeed unless engineering registration is made mandatory for professional work in industry. It is incongruous that people involved in construction,

ATTACHMENT NO. 2

MINIMUM, MEDIAN, & MAXIMUM MONTHLY INCOME REFERENCED TO
SUMMER, 1970 PER VARIOUS SURVEYS - CORRELATED PER ATTACHMENT NO. 1
(WEIGHTING FACTORS - 1970/1969 = 106.1, 1969/1968 = 105.5)
(ROUNDED TO NEAREST $10 PER MONTH)

GRADE	NSPE	ASCE[1]	FEDERAL G.S.[2]	PROPOSED LDH[3]	LA. CIVIL SERVICE[3]	XYZ[4]	UTIL.[5]	PEPP[6]	COMMITTEE RECOMM. AMOUNT	RATIO
I	870	750	710	840	810	690		580	800	1.00
	-	840	810	1040	930	830		680	850	1.06
	-	930	890	1240	1020	960		760	900	1.13
II	-	820	880	920	840	770	790	690	850	1.06
	890	930	1000	1120	960	920	890	790	950	1.19
	-	1070	1100	1320	1080	1090	980	860	1050	1.31
III	-	900	960	1000	870	860	870	780	1000	1.25
	950	1030	1110	1240	1050	1030	1000	890	1150	1.44
	-	1170	1220	1480	1200	1220	1090	990	1400	1.75
IV	-	990	1050	1160						
	1150	1130	1230	1360	960	990	950	890	1250	1.56
	-	1290	1370	1560	1120	1180	1120	1030	1400	1.75
				1250	1280	1430	1240	1150	1650	2.06
V	-	1120	1250	1500						
	1360	1330	1590	1750	1040	1130	1050	1050	1400	1.75
	-	1590	1920	1300	1200	1370	1260	1220	1650	2.06
				1550	1360	1660	1430	1360	2000	2.50
				1800						
VI	-	1390	1730	1400	1080					
	1660	1600	2020	1650	1260	1320	1200	1220	1700	2.13
	-	1770	2250	1900	1440	1580	1440	1440	2000	2.50
				1500	1120	1960	1670	1580	2400	3.00
VII	-	1570	2020	1750	1320					
	2030	1710	2360	2000	1520	-	-	1410	2000	2.50
	-	1940	2630	1600	1200			1650	2400	3.00
				1850	1450			1900	2800	3.50
				2100	1700					
VIII	-	1860	2340	1700	1300			1630	2500	3.13
	2710	2040	2890	2050	1650	-	-	2000	3000	3.75
	-	2140	3140	2400	2000			2450	3500	4.38

[1] State Highway Dept. Category, median entrance and maximum rates, median extrapolated from middle 50% rates.
[2] Per January 10, 1971 Schedule, which is designed to compare to industry rates of June, 1970 according to B.L.S. Survey. Step 6 assumed median.
[3] Midsteap assumed median.
[4] Mechanical Engineer Used, medians used for range.
[5] Average of all replies.
[6] NSPE/PEPP, C.E.C., A.I.C.E. 1970 Survey of Private Practice; *Consulting Engineer*, January 1971, Average Salaries—All Firms.

manufacturing, public utilities, food processing, and the like, where the safety of workers and the general public is so intimately involved, need not be certified for professional competence. This committee strongly recommends such a requirement.

The effect would be many-fold. With such a legal requirement, engineering positions would be filled, both in good times and bad, with professional engineers. Salary scales would be consistent because non-professionals would not be granted "Company-bestowed degrees" and substituted for competent professionals. It would be easier for a company to practice professionalism among its engineers because the group would be easily recognized. "Responsible charge" of engineering work would be more easily ascertained and controlled.

A severe problem in some industrial areas has been the influx of alien engineers. In fiscal 1969 approximately 7150 foreign engineers entered the country. In fiscal 1970 about 9300 engineers in all disciplines entered the U. S. The figure in 1971 was expected to be the same. This influx, together with the concurrent slowdown in domestic engineering activity, has severely distorted the supply/demand situation. A requirement for engineering registration in industry would at least insure the competence of the profession, protect the public safety and provide for fair competition in the marketplace.

C. Salary Negotiation

The Board of Directors of the National Society of Professional Engineers, in announcing its plan to set recommended minimum income levels of engineers, which plan was adopted at the NSPE January, 1971 meeting, cites the absence of a truly open job market as the root of the salary problem for engineers. Because of highly sophisticated salary survey techniques in use by mass employers of engineers, rates for entire industries reveal little company-to-company variation. The nearly fixed scales which result do not permit the law of supply and demand to operate freely, and leave little or no room for individual salary negotiation. The individual engineer, usually having acquired a specialized knowledge, can often gain little by changing employers within the same industry. Very few individual engineers are indispensable to their companies; therefore, their power of salary negotiation is minimal. This situation has alarmed many members of the profession who have shunned the alternative of unionism and who have appealed to their professional and technical societies to move into this area of concern. This Committee believes that the economic status of the engineer is properly the function of the L.E.S. on the local level and the N.S.P.E. on the national level. Many members of professional technical societies, such as the Institute of Electrical and Electronics Engineers, are urging these groups to enter this area. A recent vote by IEEE members on whether to make the economic status of its members the primary function of the Institute failed to win the required two-thirds majority. However, virtually 50% of the votes cast were in favor of the proposal despite strong Institute Administration opposition to the movement. The N.S.P.E. has moved strongly, beginning with action by its Board of Directors in January, 1971, to recommend minimum income levels as part of an expanding effort to upgrade the economic status and security of employed engineers.

D. Security and/or Mobility of Employment

Paradoxically, most engineers desire security in their present employment but still seek the mobility to change their position if the inclination or need presents itself. Until the last two or three years, the long-standing shortage of engineers and other factors gave them this opportunity. However, the recent downturn in the economy, the reduction in research and development funding, the curtailment of aircraft and aerospace activity and the incessant attacks on technology by at least a vocal portion of the populace have shown many engineers that job security may be a myth. Additionally, many formerly "secure" engineers have been forced into early retirement or laid off because of the increase in business failures, the trend to corporate mergers and consolidation, and the "computerization" of formerly engineering functions. In other cases, engineers have been forced to remain in dead-end job situations because they are locked-in to company job benefits which are not transferable; also, prospective employers often show an aversion to mature engineers because they represent a disproportionate burden on the company benefit plan. Mobility of employment is also hindered by the increasing trend to specialization in the engineering profession. So, engineers' job security has been threatened while their mobility has been severely hampered.

4. "Portable" Pension Plans

Many authorities believe that job mobility would be best facilitated by establishment of "portable" pension plans. The article "Pension plans: The state of the art" by Donald G. Fink, General Manager of IEEE, as published in the November 1970 IEEE Spectrum, contains many important observations and statistics concerning pension plans. Mr. Fink points out that a truly "portable" pension would provide full and immediate vesting; i.e., no loss whatever of any pension right earned, both from the employer's and the employee's contributions, to the date of termination, irrespective of age or length of prior service. While most pension plans provide for some form of vesting, no industry plan exists which is truly portable as defined above. Mr. Fink also points out that professional societies cannot practically provide pension plans for their members, since rules governing tax-deferred pension benefits specify that the plans must be established and operated by employers. Protection of pension

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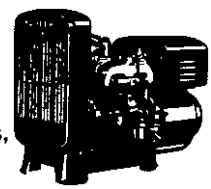

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rights on termination is, under the present rules, reserved solely to employers, and is not subject to direct action by any other organization (including a professional or technical society) with which an employee may be associated. The opportunities open to societies are thus limited to indirect actions, such as (1) urging adoption of laws governing pension eligibility and vesting (an avenue open to those professional associations whose stated objectives include lobbying for legislative changes), (2) helping employers with the administrative details of tax-deferred plans, (3) devising tax-deferred plans for adoption by employers, and (4) offering non-tax-deferred investment plans.

The N.S.P.E. has adopted a policy statement urging employers to "improve their plans to the fullest extent possible, consistent with sound economic policies." This statement also urges that "private pension plans should vest the rights of employees at the earlest practicable time, but not more than ten years."

A recent development is the offering by societies of pension plans having liberal provisions respecting eligibility and vesting, for adoption by those who can provide the all-important tax shelter, i.e., the corporate employers of society members. One such offering has recently been made by the N.S.P.E., in the form of the "N.S.P.E. Employers Retirement Plan (Pension)." This is a close relative of the N.S.P.E. Keogh Plan for the self-employed, in that the society offers employers assistance in setting up the plan and arranging for its qualification by the Internal Revenue Service, and N.S.P.E. has appointed a trustee and an underwriter for annuity and mutual fund shares. It is offered to corporate employers; when qualified by the IRS, it provides the usual tax deferral of the employer's contributions to the pension trust.

To make the N.S.P.E. Employers Corporate Plan flexible enough to cover various situations among employers, it leaves open to the employer the choice of three basic criteria. First, the employer must elect the level of benefits and decide whether the compensation base shall include overtime pay, bonuses, etc. Second, he must choose whether eligibility to participate shall require no prior service, three years' continuous service, or five years of service. Finally, he must choose whether full vesting shall occur immediately, after five years, or after ten years of continuous service.

Thus, if the employer elects the most liberal of these choices in each case, his N.S.P.E.-sponsored pension plan will provide full and immediate vesting, without any service requirement, which is better than the average plan of industrial employers. But the employer may elect the least-liberal conditions, resulting in participation after five years and vesting after ten years, conditions similar to many of the major industrial plans and less favorable than some of them. Although the N.S.P.E. plan does not, therefore, put full weight behind liberal eligibility and early vesting, it does provide the basic mechanism and the administrative underpinning for a plan that can, at the employer's option, provide an excellent level of benefits.

It should be noted that the N.S.P.E. Employers Plan is not offered as a fully "portable plan." Even if a professional worker leaves one employer covered by the N.S.P.E. plan and joins another covered by the same basic plan, the provisions for eligibility and vesting need not be the same, and there is, in any event, no transfer of benefits or service credits.

5. **Accreditation of Employers**

A concept which has been discussed in the Professional Engineers in Industry practice section of the N.S.P.E. involves the accreditation of employers. Functioning in a similar fashion as the system used to rate universities, employers would be graded as to their conformance to recommend salary schedules, professional employer-employee relationships, suitable fringe benefits, etc. Major points of the system, which have been considered at various 1971 PEI Regional Meetings, include:

a. Accreditation should be voluntary. The only penalty to a non-cooperating firm should be lack of accreditation.

b. Boards of Visitors making the accreditation inspection should consist of members from various practice sections.

c. Employers should be advised of deficiencies and given a reasonable time to explain or correct them.

d. Reports on employers should be confidential, with a letter rating system for different categories possibly employed.

This Committee feels that an accreditation system is a concept which should be studied in great detail by the Board of Directors of L.E.S. prior to any recommendation for implementation in industry.

6. **Recommendations**

This committee recommends:

a. Implementation of grade level designations and salary schedules contained in Attachment 2 of this report, together with fringe benefits outlined in Section III.4. of this report, for engineers in industry.

b. Recognition of the need to maintain professional employer-employee relationships in industry.

c. Amendment of the engineering registration law to make registration mandatory for professional practice in industry.

d. Adoption by L.E.S. of policies aimed at improving the economic status of its members.

e. Further study by L.E.S., together with N.S.P.E., of pension plan provisions with the aim of providing recommendations for a reasonable program of vesting and related benefits.

f. Detailed study, by an L.E.S. committee, of the subject of accreditation of employers.

ENGINEWS

DEAN LEE JOHNSON NAMED IRBY PROFESSOR

Dr. Lee H. Johnson, dean of the Tulane University School of Engineering, has been appointed the William R. Irby professor of engineering at Tulane, effective July 1, Dr. Herbert E. Longenecker, Tulane president, announced recently.

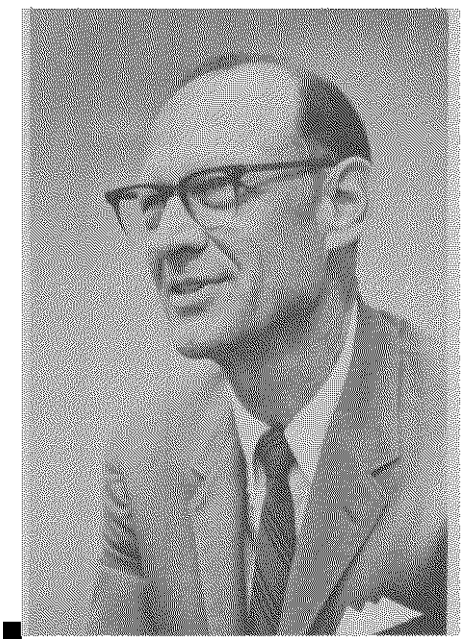
Dr. Johnson, who has served as dean and professor of civil engineering at Tulane for the past 22 years, will resign his position as dean in order to devote his full time to teaching at the university, Dr. Longenecker said.

A committee to select a new dean for the Tulane engineering school will be formed in the near future.

According to Dr. Longenecker, William R. Irby professorships are awarded to faculty members of the university's various schools and colleges who are exceptional scholars and leaders in their fields.

"After many years of continuous service to engineering education in a leadership role as dean, Lee Johnson will turn his talents to full time teaching," Dr. Longenecker said.

"His deanship has been marked by a steady growth in both teaching and research contributions of the Tulane School of Engineering and in its attractiveness to young people in search of preparation for meaningful and productive lives."



Lee Johnson

In citing Dean Johnson's contributions to Tulane, Dr. David R. Deener, Tulane provost, said that the dean has been instrumental in the adoption of a curriculum to offer advanced professional degrees in engineering and the development of strong programs in biomedical engineering, operations research and computer research.

"Contrary to trends in many undergraduate engineering schools, Tulane has increased its undergraduate engineering student body significantly since the mid-60s," Dr. Deener said. "Since the award of the first Ph.D. in chemical engineering in 1963, a total of 67 Ph.D. degrees have been conferred in the engineering departments at Tulane."

Waldemar S. Nelson, president of the School of Engineering's board of advisers, expressed appreciation for the service of Lee Johnson to the School of Engineering.

"We are fortunate that he will continue to serve as Irby professor of engineering and will assist the university in selecting a new dean," he said.

Prior to his appointment as Tulane dean in 1950, Dr. Johnson served for 13 years as dean of the School of Engineering and professor of civil engineering at the University of Mississippi, bringing to 35 years his service as an administrator.

From 1935 to 1937, he was a staff member of the U. S. Waterways Experiment Station in Vicksburg, Miss., and a staff member of the Corps of Engineers of the U. S. Army at Vicksburg and at Mobile, Ala.

CURRENT MEMBERSHIP STANDINGS

Position	Chapter	Chapter Membership Chairman	Applications	Quota	% Quota
1	Monroe	Charlie Stubbs	33	16	206.250
2	Bayou	Herb Pourciau	16	10	160.000
3	Lafayette	LeRoy Barber	19	14	135.714
4	Baton Rouge	Larry Fisher	48	49	97.959
5	Alexandria	Newton Gorsha	13	14	92.857
6	New Orleans	Joe Meade	67	84	79.761
7	Lake Charles	James Stevens	10	13	76.923
8	Shreveport	Michael Smith	17	24	70.833
		Total:	223	224	99.553

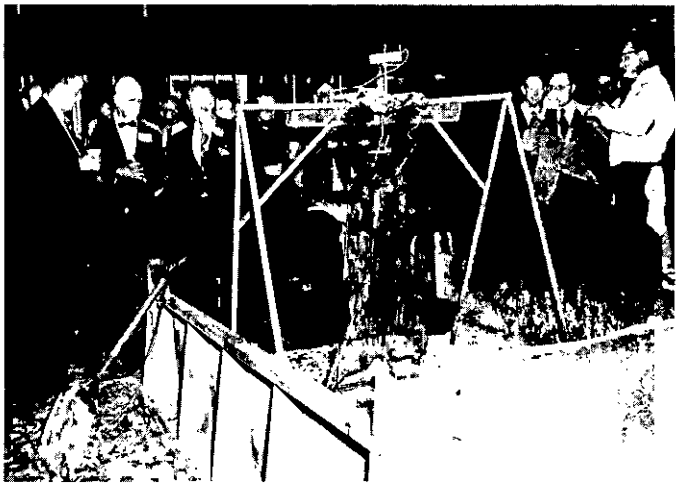
ENGINEERS IN THE NEWS

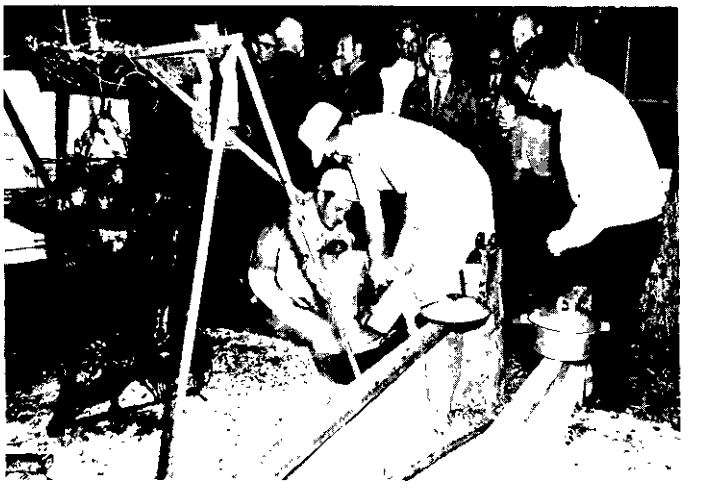
J. H. Clabaugh, Manager of the Baton Rouge office of Bovay Engineers, Inc., announced the following changes in organization and management.

Robert D. Allen, P.E., is appointed Chief Engineer for the Design Engineering Division which consists of a Mechanical-Petrochemical Department, a Civil-Structural Department, and an Electrical-Instrument Department.

Amos M. Dampier, P.E., is Manager of the Mechanical-Petrochemical Department and **A. B. Williamson**, P.E., is Manager of the Civil-Structural Department.

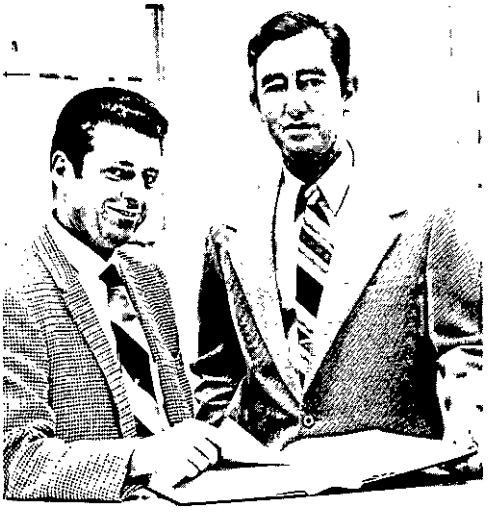
Otis O. Miller, P.E., is appointed Manager for the newly established Telephone Engineering Division.





COCHON DE LAIT HELD BY MONROE CHAPTER—The Monroe Chapter of LES held a cochon de lait recently at the American Legion Hall in Forsythe Park. These photos show some of the preparations necessary before the dinner. Upper left shows some of the members watching the roasting of the pig. Upper right captures the Simmons brothers preparing dirty rice. In the lower left photo Dr. J. J. Thigpen tastes the first bite. Serving are M. E. "Gene" Simmons, James "D. D." Simmons, and Gerald Simmons, LES Executive Secretary. Lower right shows members helping themselves to the cochon de lait.

JOINT MEETING—In April, the Lafayette and the Bayou chapters of LES held a joint meeting at the Forest Club in Franklin. Shown above are, left to right, Mrs. Charles Theriot; Mrs. Ray Desormeaux; Ray Desormeaux, Lafayette Chapter President; Charles "Bob" Theriot, CLU, speaker; J. Alvin Badeaux, Bayou Chapter President; and Mrs. Alvin Badeaux.



LIBRARY FUND—Dr. O. C. Karkalits, Dean, College of Engineering & Technology of McNeese State University, and B. R. Rentrop, President of the Lake Charles Chapter of Louisiana Engineering Society, discuss the needs of McNeese's engineering library upon the occasion of the presentation of $100 to MSU Engineering library fund on behalf of the L. C. Chapter of LES.

NEW NSPE PRESIDENT

James F. Shivler, Jr., P.E., president of Reynolds, Smith and Hills, Architects-Engineers-Planners, Inc., of Jacksonville, Florida, will become president of the 67,000-member National Society of Professional Engineers in July.

Robert L. Reitinger, P.E., chief engineer of the Philadelphia plant of Rohm and Haas, has been elected NSPE president-elect by the membership. Shivler and Reitinger assume their new posts at the Society's 38th Annual Meeting in Denver, Colorado. Shivler succeeds J. Caldwell Wilson, P.E., an engineering executive with the Mountain Bell Telephone Company in Albuquerque.

Six regional vice presidents and a treasurer were also elected by NSPE members for the coming administrative year. They are as follows: Paul D. Newcomer, P.E., Topeka, Kansas, executive director of the Topeka Urban Renewal Agency, second-term vice president, North Central Region; Edward E. Slowter, P.E., Columbus, Ohio, vice president, secretary, and treasurer of Battelle Memorial Institute, second-term vice president, Central Region; Ben T. Dibble, P.E., Phoenix, Arizona, consulting engineer, Dibble & Associates, second-term Western Region vice president; Leslie F. Weaver, P.E., Washington, D. C., partner, Lyles, Bissett, Carlisle & Wolff Associates, Architects-Engineers-Planners, Northeastern Region vice president; Harold J. Black, P.E., Nashville, Tennessee, vice president for engineering and development, Aerostructures Division of the AVCO Corporation, Southeastern Region vice president; and Delbert A. Schmand, P.E., Little Rock, Arkansas, Chief of operations division, U. S. Army Corps of Engineers, Southwestern Region vice president. Rear Admiral John G. Dillon, P.E., of the Civil Engineers Corps, U. S. Navy, was reelected NSPE treasurer for a third term.

IN MEMORIAM

LEO JAMES ODOM

Died February 15, 1972

Born: November 17, 1932 in New Orleans, Louisiana.

Graduated: University High School, Baton Rouge, Louisiana.

Graduated: Louisiana State University, 1960, with B.S. in Civil Engineering.

Served in U. S. Army.

Engineer with Pyburn & Odom, Consulting Engineers, 1960-1968; Engineer-Manager, Odom Offshore Surveys, Inc., 1968 to date; Vice President with Pyburn & Odom, Inc., 1971 to date.

Professional Registration as a Civil Engineer in Louisiana.

Professional Societies: American Society of Civil Engineers, Louisiana Engineering Society, National Society of Professional Engineers.

Member of St. Aloysius Catholic Church.

Survived by wife, Jodi Fulton; daughter, Michelle Marie; and three sons, Leo J., Jr., Christopher Martin and David Fulton; parents, Mr. and Mrs. Leo M. Odom; one sister, Mrs. John (Aimee) Bateman; and one brother, Harold L. S. Odom.

DONALD M. SMITH

Died February 15, 1972

Born: March 27, 1940.

Graduated: Baton Rouge High School, Baton Rouge, Louisiana.

Graduated: Louisiana State University, 1969, with B.S. in Civil Engineering.

Served in U. S. Marine Corps.

Associated with Kellen & Associates, Consulting Engineers, 1966-1970; Operations Manager with Odom Offshore Surveys, Inc., 1970 to date.

Professional Registration as an Engineer-in-Training in the State of Louisiana and as a Land Surveyor in the State of Louisiana.

Professional Societies: American Society of Civil Engineers, Louisiana Engineering Society, Chi Epsilon.

Member of University Presbyterian Church.

Survived by wife, Susan Gaushell; daughter, Laura; son, Harper; and parents, Mr. and Mrs. Sidney L. Smith.

JERE WILL HIGGS, JR.

Died February 15, 1972

Born: August 22, 1927, Big Springs, Texas.

Graduated: Woodrow Wilson High School, Dallas, Texas.

Graduated: Texas A&M College, 1948, with B.S. in Civil Engineering; Louisiana State University, 1949, with M.S. in Hydraulic Engineering.

Served in U. S. Army.

Engineer with Project Control Section, Louisiana Highway Department, 1948; Engineer with Pyburn & Odom, Consulting Engineers, 1949 to 1971; Vice President & Chief Engineer with Pyburn & Odom, Inc., 1971 to date.

Professional Registration as Civil Engineer in ,the states of Louisiana, Texas, Florida, Pennsylvania, New Jersey, Alabama, Missouri and Illinois.

Professional Societies: American Society of Civil Engineers, American Concrete Institute, American Congress of Surveying & Mapping, Louisiana Engineering Society, National Society of Professional Engineers, International Association for Hydraulic Research.

Member of First Christian Church of Baton Rouge.

Survived by wife, Jeanne Kennedy, and daughter Mary.

PROFESSIONAL ENGINEERS GRANTED REGISTRATION

APRIL 11, 1972

By the Louisiana State Board of Registration for Professional Engineers and Land Surveyors

AGENA, VICTOR T.
Meraux, La.
Mechanical

BAKER, DALE B.
Lafayette, La.
Petroleum

BARCELO, BRIAN T.
Cranbury, New Jersey
Mechanical

BAUER, FRANCIS W.
Baton Rouge, La.
Mechanical

BELLINGER, FREDERICK G.
Lake Charles, La.
Mechanical

BLACKWOOD, WILLIAM H. III
Baton Rouge, La.
Industrial

BRANN, DAVID W.
Bogalusa, La.
Civil

BRODERICK, WILLIAM C.
River Edge, New Jersey
Electrical

BROWN, WILLIAM L.
Sarepta, La.
Chemical

BRUCE, JAMES E.
Columbia, La.
Civil

BURNS, B. CALVIN
Ninde, Va.
Civil

CHAMBERS, FRED
Houston, Texas
Electrical

COLLIGAN, HERMAN J.
New Orleans, La.
Civil

COMBS, JAMES S.
Shreveport, La.
Mechanical

DAVIDSON, LARRY E.
New Orleans, La.
Petroleum

DIETZ, JOHN R.
Camp Hill, Pa.
Civil

DOHSE, FRITZ E.
New Orleans, La.
Mechanical

FEAZEL, BOBBY C.
West Monroe, La.
Civil

FERRER, JORGE M.
Baton Rouge, La.
Chemical

FORTENBERRY, WILLIAM M.
Mobile, Ala.
Mechanical

GARCIA, SIRIO
Gretna, La.
Mechanical

GERKEN, ARTHUR E.
New Orleans, La.
Civil

GIFFELS, DONALD J.
Walled Lake, Mo.
Mechanical

GILBERT, RALPH W., JR.
Zweibruecken, Germany
Civil

GODFREY, DANIEL G.
Metairie, La.
Civil

GRAYSON, JOEL B.
Baton Rouge, La.
Civil

HAMEL, FREDDIE L.
Scottsdale, Ariz.
Electrical

HAMMOND, WILTON N.
Fort Worth, Texas
Civil

HAYES, PAUL M.
Covington, La.
Civil

HINDE, ROBERT J.
Baton Rouge, La.
Electrical

HOFMAN, DAVID J.
New York, N. Y.
Civil

HOLLADAY, COLLIS H. JR.
Lafayette, La.
Mechanical

HOUSE, BOB L.
Harvey, La.
Civil

HOWELL, FRANKLIN R.
Lafayette, La.
Civil

JACKSON, RICHARD B.
New Orleans, La.
Civil

JOHANSON, KNUT A. JR.
Ama, La.
Electrical

KEATS, JOHN B.
Ruston, La.
Industrial

KELLEY, ROSS E.
Kansas City, Mo.
Civil

KING, JAMES P.
Metairie, La.
Civil

KINGSTON, JOSEPH R.
New Iberia, La.
Civil

LANGFORD, JAMES M.
La Porte, Texas
Mechanical

LAVITT, HOWARD
Skokie, Ill.
Civil

LAWSON, THOMAS B.
Baton Rouge, La.
Agricultural

LYNCH, RONALD MAC
Joliet, Ill.
Mechanical

MARTIN, DALLAS J.
N. Palm Beach, Fla.
Mechanical

MAUSER, DONALD B.
Moraga, Ca.
Civil

McCALL, EDGAR O.
Pensacola, Fla.
Mechanical

McNEIL, ALEXANDER E.
New Orleans, La.
Civil

MIDYETT, ENNIS M.
Carrollton, Ohio
Mechanical

MIZE, DAVID C.
Luling, La.
Mechanical

MOISE, JAMES E.
Baton Rouge, La.
Chemical

MONJE, CARLOS A.
Metairie, La.
Mechanical

NIXDORF, RICHARD H.
Ijamsville, Md.
Civil

OLIVIER, PLINY L. JR.
Gramercy, La.
Mechanical

PENDLEY, ROBERT R.
Dallas, Texas
Petroleum

PIERSON, REX E. JR.
Metairie, La.
Mechanical

PRITCHARD, FRANK L.
Metairie, La.
Mechanical

PRUSAK, F. THOMAS
Rolling Meadow, Ill.
Civil

RICH, DONALD L.
Springfield, Mo.
Civil

ROWE, DONALD W.
Mobile, Ala.
Civil

SCHILLECI, JOHN W. JR.
New Orleans, La.
Electrical

SHUMAKER, WESLEY M.
Greenwell Springs, La.
Electrical

TAUZIN, JOHNNY C.
Alvin, Texas
Mechanical

TUCKER, GEORGE D. JR.
Houston, Texas
Electrical

VICKNAIR, ERNEST A. JR.
Thibodaux, La.
Mechanical

WARD, RICHARD H.
Port Sulphur, La.
Mechanical

WATKINS, DANIEL J.
Prairie Village, Kan.
Civil

WEILBAECHER, CHESTER O.
New Orleans, La.
Electrical

WISMAR, BRUCE A.
Gretna, La.
Civil

WORTHAM, ROBERT P.
Metairie, La.
Civil

Also registered as Land Surveyors:

BROWN, SAMUEL NEWBERN, JR.
Baton Rouge, La.

HILL, ELMER O'NEILL
Woodville, Texas

NEWMAN, WILLIAM HARVEY
Jasper, Texas

ROWE, FRANK WHITEFORD
Mobile, Ala.

PROFESSIONAL ENGINEERS GRANTED REGISTRATION

MAY 15, 1972

By the Louisiana State Board of Registration for Professional Engineers and Land Surveyors

ACCARDO, HARRY J. JR.
Lake Charles, La.
Mechanical

ALONZO, ROBERT J.
New Orleans, La.
Electrical

BOSSUNG, HAROLD T.
Weston, Mass.
Mechanical

BULLOCH, IRVIN G.
Houma, La.
Mechanical

CARLSON, GLENN A.
Lafayette, La.
Agricultural

COX, FRANCIS A.
Baton Rouge, La.
Chemical

CRAIG, ARVRA E. JR.
Pineville, La.
Mechanical

EGGLESTON, JOE E.
Victoria, Texas
Electrical

HARMON, GRADY R.
LaFayette, Ala.
Mechanical

HENDRICKS, JACK
Metairie, La.
Petroleum

HETHERWICK, ROBERT M.
Houston, Texas
Chemical

KELLUM, GARY B.
Baton Rouge, La.
Mechanical

KNEPLER, JOHN R.
Lafayette, La.
Petroleum

MARTEL, ALFREDO M.
Oakdale, La.
Agricultural

MOSS, JAMES E.
Baton Rouge, La.
Electrical

MOTE, CHARLES R.
Lafayette, La.
Agricultural

NICE, FRANK A. JR.
Lafayette, La.
Petroleum

OWEN, WILLIAM L. JR.
Shreveport, La.
Mechanical

ROUSSEL, FRANCIS E.
Luling, La.
Mechanical

SMITH, RICHARD A.
Alexandria, Va.
Mechanical

WALES, JAMES E. JR.
New Orleans, La.
Mechanical

WILLIAMS, HERBERT B.
Houston, Texas
Electrical

WISE, JULIUS F. JR.
New Orleans, La.
Electrical

ZIMMERMAN, ROBERT L.
Metairie, La.
Electrical

NEW MEMBERS

Alexandria

GERALD P. BARDWELL
Rt. 2, Box 266-A
Deville, La. 71328

FREDERICK P. BOLGER
309 Mark Street
Alexandria, La. 71301

DANIEL W. BRADFORD, P.E.
133 Gibson Street
Natchitoches, La. 71457

CLOVIECE LADNER
P. O. Box 1105
Alexandria, La. 71301

Baton Rouge

ALAN S. BRADLEY, P.E.
690 Sharp Lane, Apt. #510
Baton Rouge, La. 70815

LEE SAVOY, JR., P.E.
4449 Drusilla Drive
Baton Rouge, La. 70809

Bayou

CHARLES A. BECNEL, P.E.
Rt. 3, Box 55-E
Vacherie, La. 70090

Lafayette

JULES D. BABINEAUX
P. O. Box 3368
Lafayette, La. 70501

GARY P. KING
P. O. Box 550
New Iberia, La. 70560

RAYMOND W. MOORE, JR., P.E.
301 Venus Drive
Lafayette, La. 70501

JAMES M. SHAMBARGER
Box 3368
Lafayette, La. 70501

Lake Charles

ADOLFO CANO, P.E.
1418 Alice Lane
Sulphur, La. 70663

DARWIN E. CLINE
2525 14th Street
Lake Charles, La. 70601

BARRY B. THOMAS, P.E.
1822 19th
Lake Charles, La. 70601

BENJAMIN D. WHATLEY, JR., P.E.
P. O. Box 1687
Lake Charles, La. 70601

Monroe

FRANCIS L. BERGERON, P.E.
P. O. Box 1762
Monroe, La. 71201

DORSEY W. BYERS, P.E.
P. O. Box 1762
Monroe, La. 71201

J. R. ENGLISH, P.E.
13 Willow Drive
Monroe, La. 71201

SITARAM G. GADGIL, P.E.
P. O. Box 4887
Monroe, La. 71201

EDWIN N. JETT
Box 5108
Arcadia, La. 71001

WILLIAM M. LUFFEY
1217 Trenton St., #11B
West Monroe, La. 71291

ROBERT S. McCLENDON, P.E.
P. O. Box 244
Arcadia, La. 71001

MARION T. MEADOWS, P.E.
317 Marie Dr.
West Monroe, La. 71291

JOHN E. SMITH, P.E.
1100 N. 18th Street
Monroe, La. 71201

ROBERT D. SPADE, P.E.
2206 Redwood Drive
Monroe, La. 71201

M. BRENTS WITTY, P.E.
2616 Indian Mound
Monroe, La. 71201

New Orleans

FRANK LEE BOYD
3917½ Iberville St.
New Orleans, La. 70119

GUY R. CARRIERE
Solar Div. I.H.C.
1001 Howard, Suite 2002
New Orleans, La. 70113

CLARENCE R. CASTER, JR., P.E.
350 Walter Road
New Orleans, La. 70123

JOHN J. CORDARO, P.E.
142 Delaronde Street
New Orleans, La. 70114

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501 Ridgewood Drive
Metairie, La. 70001

HERO J. EDWARDS, JR., P.E.
P. O. Box 60340
New Orleans, La. 70160

BILLY RAY FARRIS
P. O. Box 61000
New Orleans, La. 70160

JOHN R. GOLLER, P.E.
P. O. Box 53345
New Orleans, La. 70153

HERBERT E. HAUER, P.E.
P. O. Box 60340
New Orleans, La. 70160

LAWRENCE E. HEINDEL, JR.
General Electric
Rm. 320, 1010 Common St.
New Orleans, La. 70112

LINDON G. HUGHEN
IBM Corporation
2026 St. Charles St.
New Orleans, La. 70150

DONALD J. KIRSCHNER, P.E.
5102 E. Lemans Street
New Orleans, La. 70129

CARLOS A. MONJE, P.E.
4538 Ligustrum St.
Metairie, La. 70001

RUSSELL J. NUNEZ, P.E.
5826 St. Bernard Avenue
New Orleans, La. 70122

RAWLEY M. PENICK, III, P.E.
Technical Associates of New Orleans
4521 W. Napoleon Avenue
Metairie, La. 70001

THOMAS R. PERTROSINO
General Electric Co.
1010 Common St., Room 320
New Orleans, La. 70112

ROBERT R. SMITH, P.E.
218 Country Club Blvd.
Slidell, La. 70458

MAURICE I. STEWART, JR.
840 Brockenbraugh Ct.
Metairie, La. 70005

LEONCE P. WAGUESPACK, JR.
P. O. Box 60340
New Orleans, La. 70160

ROBERT P. WORTHAM, P.E.
U.S. Army Corps of Engrs.
4611 St. Claude Ave.
New Orleans, La. 70117

TIMOTHY B. ZIMMERMAN, P.E.
14220 Dwyer Blvd.
New Orleans, La. 70129

Shreveport

ALBERT J. BERGAMINI
2126 Cynthia Lane
Shreveport, La. 71108

BOARD OF DIRECTION MEETING

April 14, 1972

New Orleans Public Service **New Orleans, La.**

President Hogue called the meeting to order with the following members present: T. J. Hogue, Jr., P.E.; Marshal B. Ewing, P.E.; Dan Brown, P.E.; Jim Meyer, P.E.; Frank Heroy, P.E.; Frank Groves, P.E.; Ray Pillow, P.E.; Lamon Moody, P.E.; Waldemar Nelson, P.E.; Billy Rentrop, P.E.; Ron Boutte, P.E.; Ray Desormeaux, P.E.; Alvin Badeaux, P.E.; Farrell Adams, P.E.; Grover Trammel, P.E.; Dr. J. J. Thigpen, P.E.; Malcolm Hurstell, P.E. Guests, Gerald A. Simmons, Executive Secretary; Carl Heck, Jr., P.E.; and Ronnie Cressy, P.E.

The minutes of the March 4, 1972 meeting were approved as forwarded to the board with the following corrections on a motion by Dr. Thigpen, seconded by Mr. Meyer.

Corrections

(1) Page 5, paragraph 9, change "come" to "**become.**"
(2) Page 7, under "Liaison with State Board of Registration" paragraph 6 add, "because the final resolution was not received until after the close of the meeting."
(3) Page 7, under Honors and Awards Committee, add, "The attached brochure shall be used as the criteria for the Odom Award in the future."

Financial Report—The financial report was given by Mr. Hurstell, Secretary-Treasurer, for the month of March, 1972. Receipts as of March 31, 1972, were $79,742.71 with budgeted receipts of $85,790.00 for the same period. Total expenses year to date for for the same period were $72,363.83 with budgeted expenses of $75,545.15.

Motion by Mr. Nelson, seconded by Mr. Ewing, "That the financial report be accepted as presented." Motion carried.

Section Reports

Professional Engineers in Education—Dr. Groves, chairman of the P.E.E. Section discussed the proposed changes to the P.E.E. Bylaws approved by the P.E.E. section and forwarded to the Board of Direction.

Motion by Dr. Groves, seconded by Mr. Desormeaux, "that the changes to the P.E.E. Bylaws be approved as attached to the minutes." Motion carried.

Professional Engineers in Private Practice—Mr. Jim Meyer, chairman of P.E.P.P. submitted the following report:

Chairman Louis Bacon of NSPE/PEPP reported on March 28 that negotiations to consolidate PEPP, CEC, and AICE have been terminated by CEC, and AICE. Six new negotiators had been working since November of 1971 and had held three meetings to try and resolve differences and accomplish consolidation. While the leaders of the three engineering groups had agreed on four basic elements of consolidation, chairman Bacon reported that some negotiators apparently did not accept the basic elements and consequently, consolidation could not be achieved. It is now the opinion of NSPE/PEPP that the next move (if any) is up to the membership of all three organizations. Otherwise, consolidation will fall by the wayside.

Regarding competitive bidding for professional services, the Justice Department has started making inquiries into NSPE and into the NSPE Code. Basis data is being furnished as requested. Late in February NSPE and NSPE/PEPP officials met with representatives of over a dozen Federal agencies to review the status of competitive bidding. There was and still is a great concern among Government engineers that recent Justice Department actions have influenced procurement personnel to conclude that competitive bidding for engineering services is now an accepted practice. There are reports of solicitation of competitive bids for engineering services with some firms submitting proposals because of the confusion. The 'Brooks' Bill (House of Representatives) or the bill sponsored by Senator McClenon and Senator Percy, each being nearly identical legislation, would eliminate competitive bidding for professional engineering and architectural services on Federal projects. We should support passage of these bills.

On the local level, LES-PEPP plans to coordinate with CEC toward obtaining a joint committee which will begin preparing

legislation to be presented to the 1974 Legislature which will be similar to the Congressional Legislation. Texas enacted a comparative law in 1971. It is felt that a Louisiana law similar to the Texas act would be a tremendous assist to engineers in private practice. This is being coordinated with the Legislative Committee.

The PEPP Chairman may have been premature in announcing apparent success in negotiating with the Farmers Home Administration to incorporate the 1972 fee schedules for engineering services into their program. While the Community Services Branch of the State Office was in support and recommended approval, the State Director for the Farmers Home Administration was in opposition and it appears that the Washington office will deny the request. We are waiting for their final determination which is to be submitted in writing. When this is received another approach will be studied and taken to try and achieve implementation. It is understood that Mr. Rhode's objection was centered around the fact that their latest fee schedule was adopted in 1971 and it is too soon for another. It was pointed out that their 1971 adoption was for a 1968 fee schedule but he maintains this was the fault of the profession and not the Farmers Home Administration.

The PEPP Section is submitting a petition for a constitutional change of the Louisiana Engineering Society to provide for functional section dues of $5.00 per year per member. We respectfully request the Board's support in helping attain this revision.

Professional Engineers in Industry—Mr. Hurstell submitted the following report in absence of the chairman, Mr. Janssen:

The Chairman of the P.E.I. Section will not be able to attend the April 14th meeting to make this report in person. He will be attending a joint Mississippi-Louisiana ASCE meeting in Gulfport where he is to present a paper. It is unfortunate that both of these meetings were scheduled for the same time. Note that such conflicts could be avoided by coordination through some central agency such as the Louisiana Engineering Society's state office.

The P.E.I. Chairman has studied the report of the Engineering Education Committee which is one of those rescheduled for consideration at the April 14th meeting since there was not time to receive it at the March 4th meeting in Lafayette.

There are two ideas advanced in this report which were not in accord with the original recommendations of the P.E.I. Section relative to the joint council of education and industry. The first of these indicates that educations' representatives would be the deans. It is quite possible that because of the press of activities that deans must have in their busy careers, that the deans would rather appoint other representatives of their faculties to represent them on the joint committee.

The other point to which we object is a statement that the education representatives would be from "publicly supported schools." This would indicate that Tulane would not be represented. We can well understand that Tulane would not have representation on the State of Louisiana's Coordinating Council for Higher Education which is a state agency. However, we consider it of utmost importance that Tulane be represented on the P.E.I. recommended committee for industry and engineering education.

At a P.E.I. meeting in Alexandria on September 10th, resolution was passed and was included in the P.E.I. report of September 11th at the board meeting on that date. This resolution read as follows:

> "Be it Resolved that LES-PEI recommend to the LES Board of Direction that a proposal be submitted to NSPE to attach an economist and economics department to its staff, and that it undertake economic studies at regular intervals about matters concerning the economic status of the profession in order to implement NSPE's basic policy of concern for the economic status of the Professional Engineer."

The P.E.I. Section would like to know what disposition has been made of this resolution.

Legislative Committee Report—Carl Heck, Jr., Chairman of the Legislative Committee read the following report:

The first item of business was the discussion of L.E.S.'s Unified Engineering Society Proposal.

The Committee first reviewed the results of the recent mail vote of L.E.S. members on the proposal; the official results were:

In favor of the Proposal	389
Opposed to the Proposal	326
Spoiled Ballots	17
Abstained	1
Total Ballots	734

Next Mr. Levy informed the Committee that C.E.C.'s official position at this time is to oppose L.E.S. on this Proposal. However, he stated that C.E.C. stands ready to sit down at the conference table with L.E.S. before the session in an attempt to iron out the differences and it is possible that their position could change before the session begins.

The Chairman distributed the latest draft of the Proposal as returned from the Louisiana Legislative Council. The Committee voted to request L.E.S.'s Executive Secretary to distribute copies of the Proposal to all members of the Committee and Board of Direction before the April 14th Board Meeting.

The Chairman read the recently received letters, commenting on the Proposal from Gerald Dyson. L.E.S. Member; New Orleans branch of A.S.C.E., C.E.C., Lafayette Chapter of L.E.S. and the Baton Rouge Chapter of L.E.S. .

The President cited the existence of an apparently unsolicited letter from Wood Brown, Attorney to Dan Vliet, Executive Secretary of the State Board of Registration. The Committee chose not to read the letter, because first it was not directed to the committee or to L.E.S., and second it was felt that Mr. Brown's own personal views on the subject are not relevant to the study. Upon termination of this discussion the following resolution was adopted.

WHEREAS, the Committee feels that the Proposed Unified Engineering Association is in the best interest of the Profession as a whole and Whereas, the majority of L.E.S. members voting in the recent mail ballot, were in favor of the Proposal and Whereas, adoption of the Proposal would ensure the Profession some control over the future of the Profession, even if our present Board of Registration were abolished in accordance with P.A.R.'s recent recommendation to consolidate all licensing agencies, and Whereas, from a political view the Committee feels that at this time with a new Governor and Legislature committed to reform we would have the best chance of passing the bill in the 1972 Session.

NOW THEREFORE BE IT RESOLVED, that it is the recommendation of the Legislative Committee that the L.E.S. Board of Direction go on record as sponsoring the Proposal and authorizing introduction into the 1972 Legislature.

BE IT FURTHER RESOLVED that the L.E.S. sponsor a State wide meeting wherein representatives of all Technical and Professional Engineering Societies will be invited to meet for the purpose of ironing out possible differences, in the latest draft and further that Gerald Simmons be authorized to set up that meeting to be held in Baton Rouge on Saturday, April 29, 1972.

Motion by Mr. Boutte, seconded by Mr. Moody "that the report and resolution attached of the Legislative Committee be accepted and the procedure outlined in the resolution in so far as introduction of the act creating a Unified Engineering Society is concerned be implemented."

After much discussion a substitute motion by Mr. Moody, seconded by Mr. Dan Brown, "that the L.E.S. Board agrees with the concept of a Unified Engineering Society and accepts the report of the Legislative Committee, but that prior to submitting this bill to the Legislature, differences be worked out and reported back to the Board of Direction for final action before introduction in the Legislature."

After discussion, question was called for. The vote was 10 For, 6 Against. The chair ruled that the motion failed to pass by the required ¾ vote.

Question was called for on the original motion. The vote was 6 For, 8 Against, therefore the motion failed.

Mr. Heck continued the Legislative Report as follows:

The second item of business was the discussion of the drafts of the Bills which would:

(1) Remove existing exemptions from Registration for Engineers in Industry.
(2) Remove existing exemptions from Registration for Engineers in Government.
(3) Eliminate Registration by Branches.
(4) Eliminate Registration of Engineers by long established practice.
(5) Require sixteen (16) hours of examination.
(6) Direct State Board of Registration to adopt and enforce a code of Professional ethics.

UPON MOTION by John Copes, seconded by Mr. Hudspeth, the following Resolution was adopted:

BE IT RESOLVED that each of the six attached Proposed Bills, to amend the Registration Law, be introduced into the 1972 Legislature.

The next item of business was the approval of the draft of a letter from President T. J. Hogue, to Governor Edwards, offering the assistance of the Engineering Profession to him and his administration.

The next item of business was the creation of a Subcommittee to review the efforts of the Federal Government in their Energy Resource Study.

The next item of business was the discussion of a recently enacted Professional Procurement Act of Texas, and a proposed Professional Procurement Act introduced into the Congress by Senator Jackson. The Committee passed the following Resolution:

UPON MOTION by Mr. John Grosch, Seconded by Carl E. Heck, Jr. that the L.E.S. Board adopt a Resolution supporting NSPE's position on procurement legislation and forward a copy thereof to our entire Congressional Delegation.

Mr. John Grosch further recommended that copies of the two Bills be forwarded to the L.E.S. Manual of Practice Committee for their use.

The Committee heard comments from Carl Heck, Jr., to the effect that the prospects for additional Federal Funds for Sewerage Treatment facilities are extremely bright. One Bill in Congress now would appropriate $24 billion over the years 1973-1975.

Mr. Moody briefly informed the Committee that the Louisiana Land Surveyors have a rather ambitious program which he will present to the Committee when drafted.

The Committee received copies of the Latest Uniform Registration Law, as proposed by the National Council of Engineering Examiners.

The Committee discussed a proposal which would give the Public special Districts, created by the local Governmental Units, the power to tax on a limited basis in order to pay preliminary Engineering Fees and other necessary expenses.

Mr. Heck explained the need for action on the remainder of the report.

Motion by Mr. Ewing, seconded by Mr. Moody, "that each item requiring introduction of legislation be acted upon separately." Motion Carried.

Motion by Mr. Adams, seconded by Mr. Ewing "that the rules be suspended to consider the report." Motion Carried.

Motion by Mr. Ewing, seconded by Mr. Meyer, "That L.E.S. introduce a bill in the next regular session of the Legislature to remove the existing exemption from registration for engineers in industry." Motion Carried unanimously.

Motion by Mr. Meyer, seconded by Mr. Moody, "That L.E.S. introduce a bill in the next regular session of the Legislature to remove existing exemptions from registration for engineers in government." Motion Carried unanimously.

Motion by Mr. Moody, seconded by Mr. Meyer, "That L.E.S. introduce a bill in the next regular session of the Legislature to eliminate registration by branches." Motion Carried unanimously.

Motion by Mr. Ewing, seconded by Mr. Dan Brown, "That L.E.S. introduce a bill in the next regular session of the Legislature to eliminate the registration of engineers by the long established practice clause." Motion Carried unanimously.

Motion by Mr. Rentrop, seconded by Mr. Badeaux, "That L.E.S. introduce a bill in the next regular session of the Legislature to require sixteen hours of examination for registration." Motion Carried unanimously.

Motion by Mr. Meyer, seconded by Dr. Groves, "That L.E.S. introduce a bill in the next regular session of the Legislature that would direct the State Board of Registration to adopt and enforce a Code of Professional Ethics." Motion Carried unanimously.

Motion by Mr. Moody, seconded by Mr. Heroy, "That the board accept the remainder of the report of the Legislative Committee." Motion Carried.

Motion by Mr. Moody, seconded by Mr. Dan Brown, "That the L.E.S. Board of Direction recognize outstanding work to date of the Legislative Committee and direct this committee to continue its efforts in studying the formation of a Unified Engineering Society for the State of Louisiana. With this in mind

it is hoped that the committee would develop an educational and public relations program promoting the Unified Engineering Society concept with a target date for submittal of the proper legislation to the State Legislature in the Spring of 1974." Motion Carried.

Motion by Mr. Moody, seconded by Mr. Adams, "That L.E.S. review the legislative program of the L.L.S.A. and other organizations and if the programs are acceptable, they be consolidated, and that the organizations share financial responsibility." Motion Carried.

The board reviewed the "Fromherz Proposal" that calls for a study of the registration law and agreed to oppose such a move at this time.

Mr. Heck asked about the L.E.S. position on matters affecting engineers during the session.

Mr. Moody stated that in the past, the board had authorized the Legislative Committee chairman and the President of the Society or his immediate successor to act in making decisions when the decisions could not be made by the Board of Direction due to the time element.

Motion by Moody, seconded by Mr. Nelson, "That the board follow the same procedure followed in the last session." Motion Carried.

Motion by Mr. Hurstell, seconded by Dr. Thigpen, "That the chapters assist the Legislative Committee in every way possible and make a concentrated effort to establish telephone contact committees during the session." Motion Carried.

Motion by Mr. Moody, seconded by Mr. Badeaux, "That the Legislative Committee be authorized to appoint Ad. Hoc. members to the committee to assist in its effort to have someone present at the capitol during the session." Motion Carried.

Nominating Committee Report—Mr. Hurstell submitted the following report to the board in the absence of chairman, John Vogt:

The 1972 Nominating Committee of the L.E.S. met in the L.E.S. office in Baton Rouge on Friday, March 24th. A quorum of the committee was present and the following individuals were selected and are recommended to the Board of Direction for officers and to fill the vacancies due to expiration of the terms of certain directors of the Society for the fiscal year 1972-73.

President-Elect	J. J. Thigpen, Monroe
2nd Vice President	F. Culpepper, Monroe
Secretary-Treasurer	M. Hurstell, New Orleans
NSPE Director	W. Nelson, New Orleans
State Directors	M. Ewing, Alexandria J. Meyer, Alexandria

Each of these gentlemen has been contacted and has agreed to serve if nominated.

Motion by Mr. Dan Brown, seconded by Mr. Pillow, "That the Nominating Committee report be accepted and L.E.S. proceed with the election of officers." Motion Carried.

Advertising Contract for "LOUISIANA ENGINEER"—Mr. Hurstell discussed the attached contract for retaining firms to sell advertising for the **"LOUISIANA ENGINEER"** on a commission basis.

Motion by Mr. Hurstell, seconded by Mr. Nelson, "That the L.E.S. enter into contract with selected firms to sell advertising for the **"LOUISIANA ENGINEER"** and that the agreement not be exclusive with any one agency or person." (See attached.) Motion Carried.

L.E.S. Insurance Committee Recommendations—Mr. Ronnie Cressy, chairman of the L.E.S. Insurance Committee, reviewed the report forwarded to the board, on recommendations of the Insurance Committee. The recommendations are as follows:

That the Board of Directors institute a group Automobile Insurance program for Louisiana Engineering Society members. This program should provide coverage for both individually owned and company owned passenger vehicles.

That the Board of Directors employ the firm of Gilsbar, Incorporated to be the Society's insurance consultant for this program. The firm of Gilsbar, Incorporated should be instructed to design an appropriate insurance program to solicit price quotations from various insurance carriers and to present the results of this solicitation to the Board of Directors for its acceptance or rejection of this program.

That the rules and regulations for the Society to adopt in governing and regulating the insurance program should be developed by the consultant and presented to the Board for its acceptance.

Motion by Mr. Adams, seconded by Mr. Ewing, "That the Insurance Committee recommendations be adopted." Motion Carried.

Salary Study Report—Mr. Hurstell reviewed the Salary Study Committee recommendations forwarded to the board.

Motion by Mr. Adams, seconded by Dr. Thigpen, "That the report be accepted."

Substitute motion by Mr. Meyer, seconded by Mr. Nelson, "That the report be reviewed and action be delayed until the next meeting." Substitute Motion carried.

Mr. Nelson commended the committee on the excellent job done on the study and urged each board member to review the committee findings before the next board meeting

Resolution Adoption Procedure—Motion by Mr. Desormeaux, seconded by Dr. Thigpen, "That this item be deferred until a next meeting." Motion Carried.

L.E.S. Travel Reimbursement Policy—Motion by Mr. Hurstell, seconded by Mr. Ewing, "That action be deferred until a later date to determine the progress made on the sale of advertising in the **"LOUISIANA ENGINEER."** Motion Carried.

Resolutions—Mr. Boutte reviewed the resolution submitted by the Agriculture engineers to the Liaison with the State Board Committee at the Lafayette meeting. The resolution is stated in the March, 1972 minutes.

Motion by Mr. Boutte, seconded by Dr. Groves, "that the resolution be accepted." 4 Votes For, 8 Against. Motion Failed.

Report on Distribution of Engineering Education Study Report—Mr. Hurstell urged each chapter to prepare a report on the progress made in contacting state legislators with regard to the Engineering Education Study.

Motion by Mr. Hurstell, seconded by Mr. Ewing, "That the chapters provide the Secretary-Treasurer a written report by April 28, 1972 on the distribution of the report." Motion Carried.

The next meeting of the Board of Direction will be held, May 19, 1972 in Baton Rouge, Louisiana.

The board then adjourned and went into Executive Session.

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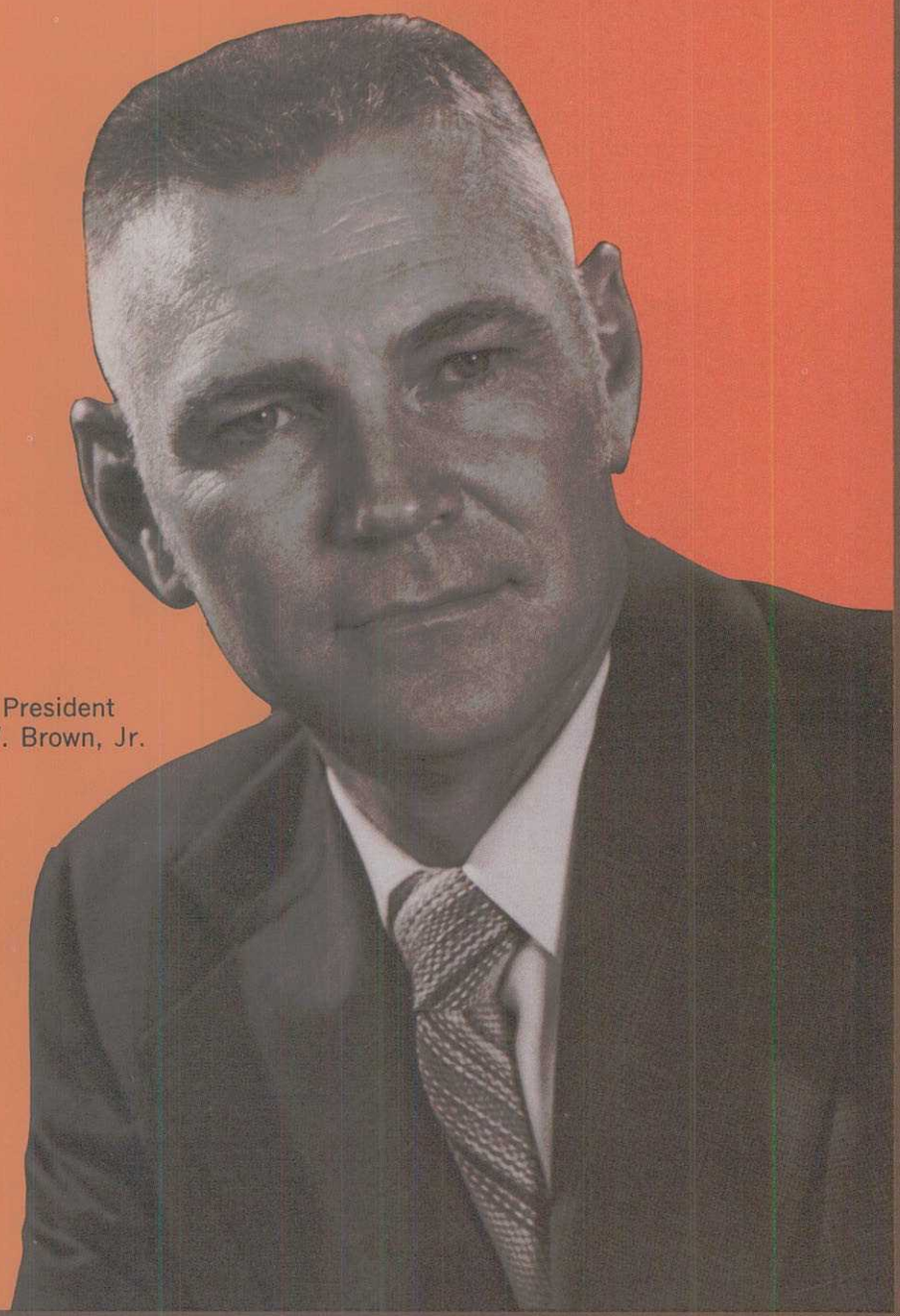
LOUISIANA ENGINEER

August, 1972



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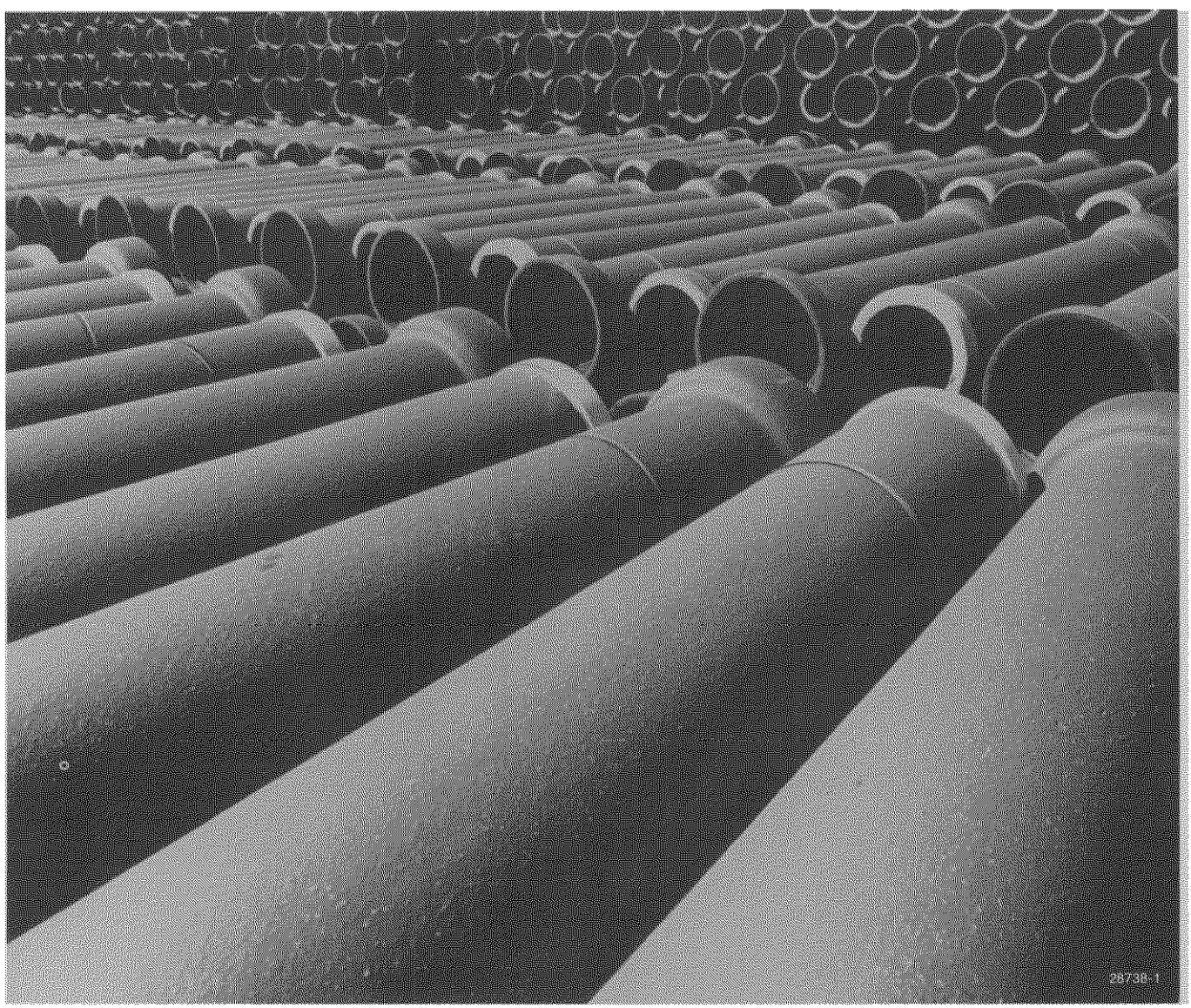


PRELIMINARY PROGRAM

NSPE SOUTHWESTERN REGIONAL MEETING
SHERATON INN—AIRPORT
OKLAHOMA CITY, OKLAHOMA
OCTOBER 26-28, 1972

THURSDAY, OCTOBER 26

8:30 A.M. to 11:45 A.M.

Practice Area Discussions
(Open to all in attendance)

a. **Private Practice**
Leo M. Odom, P.E. Presiding
Vice-Chairman, PEPP, S.W. Region

b. **Industry**
James S. Janssen, P.E. Presiding
Vice-Chairman, PEI, S.W. Region

c. **Construction**
H. B. Zachery, P.E. Presiding
Vice-Chairman, PEC, S.W. Region

12:00 Noon to 1:45 P.M.

Luncheon
Speaker: H. B. Zachery, Sr., P.E.

2:00 P.M. to 5:00 P.M.

Practice Area Discussions Continued
Executive Directors of State Societies with State Society Presidents
Ira Oliver, Moderator, Executive Director, Oklahoma Society of Professional Engineers

6:00 P.M.

Social Hour, Bar-B-Que
Entertainment and Tour of National Cowboy Hall of Fame

FRIDAY, OCTOBER 27

8:30 A.M.

Invocation

8:30 A.M. to 8:35 A.M.

Welcome by Garth Kennedy, P.E. President Oklahoma Society of Professional Engineers

8:35 A.M. to 8:45 A.M.

Introductory remarks by D. A. Schmand, P.E., N.S.P.E. Vice President, Southwestern Region

8:45 A.M. to 10:00 A.M.

Developing Leadership in the Professional Engineering Society —
Dr. Bernard F. Landuyt, Dean Emeritus, College of Business Administration, University of Detroit

10:00 A.M. to 10:15 A.M.

Coffee

10:15 A.M. to 11:00 A.M.

Competitive Bidding for Professional Engineering Services
(A discussion of State and National Activities.)
Milton F. Lunch—NSPE General Counsel

11:00 A.M. to 11:45 A.M.

Unity in the Engineering Profession
(A discussion of the affiliate program with special emphasis on action being taken by States. Membership implications. Activity by affiliate societies in Southwestern Region.)
Paul Robbins—P.E., NSPE Executive Director

11:45 A.M. to 12:00 Noon

Career Guidance
LeRoy Culbertson, P.E. — Past N.S.P.E. Southwestern Regional Vice-President, and National Chairman, Engineering Preparation Committee

12:15 P.M. to 1:45 P.M.

Luncheon
(Order of the Engineer Induction Ceremony and Presentation of Engineer Rings)

2:00 P.M. to 3:00 P.M.

Professional Schools of Engineering
(A review of recent developments. State Activity. Projections.)
Dr. M. R. Lohmann, P.E.—President of Engineers Council for Professional Development and Dean of Engineering, Oklahoma State University

3:00 P.M. to 3:15 P.M.

Coffee

3:15 P.M. to 3:45 P.M.

Young Engineers. (Involvement of younger engineers. The "Young Engineers Guide." Review of activities of States and Chapters.)
J. A. Westman, P.E.—President, New Mexico Society of Professional Engineers and Immediate Past Chairman, National Young Engineers' Committee

3:45 P.M. to 4:45 P.M.

Reports of Practice Area Discussions

Report of Executive Directors of State Societies
Ira Oliver, Executive Director, Oklahoma Society of Professional Engineers

6:30 P.M.

Social Hour and Southwest Regional Banquet
Speaker: James Shivler, Jr., P.E. President, N.S.P.E.

SATURDAY, OCTOBER 28, 1972

8:30 A.M. to 8:45 A.M.

Report of Ladies Auxiliary, Southwestern Region
Mrs. Phillip R. Owens, Vice-Chairman

8:45 A.M. to 9:15 A.M.

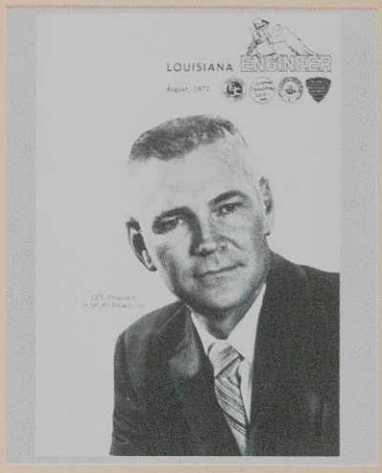
Building a Strong Chapter
(A discussion of Chapter Activity Committee recommendations and the Chapter Evaluation Program.)
Gordon Walhood, P.E.—National Director and Past President, New Mexico Society of Professional Engineers.

9:15 A.M. to 10:00 A.M.

State Presentations

12:00 Noon

Adjourn



COVER

Hoyt W. Brown, Jr., new President of the Louisiana Engineering Society.

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The LOUISIANA ENGINEER is the official publication of the Louisiana Engineering Society and the journal of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. The magazine is published in February, April, June, August, October and December. Subscription $1.00 per year for engineers registered in Louisiana and non-registered members of the Louisiana Engineering Society. Second class postage paid at Baton Rouge, La. The Louisiana Engineering Society and the Louisiana State Board of Registration for Professional Engineers and Land Surveyors do not guarantee the accuracy of statements made or necessarily concur with opinions expressed in this publication.

State Registration Board to Study Law

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors is initiating a study of the Louisiana law providing for the registration of professional engineers and land surveyors, and related Louisiana legislation. In the course of its survey and study the Registration Board intends to establish communication with all organizations and persons having interest in the registration of professional engineers and land surveyors, and invites communications in this regard to be addressed to the Board.

In announcing its action, the Registration Board noted that Louisiana had the second registration law for engineers in the United States, enacted in 1908, and limited to civil engineers and land surveyors. A general registration law providing for registration of major branches of engineers was enacted in 1950 after some dozen years of conference and effort on the part of engineers in the state This law stood unchanged for 18 years, and then was amended in 1968 and 1970, and amendments were proposed but not enacted in 1972. In view of the current interest in amendments, the lapse of time since a general review of the law, and continuing developments in the field of engineering law, the Registration Board believes its survey is timely.

In making its study the Registration Board will review thoroughly the present law and the Board's experience in administering it over the past 22 years; the laws of other states; and the Model Law published by the National Council of Engineering Examiners.

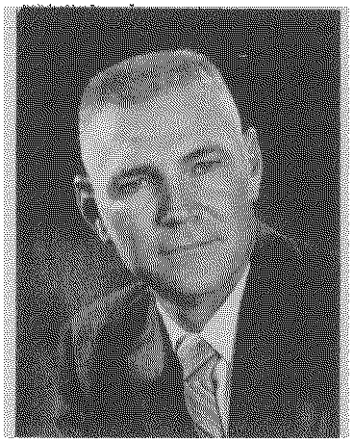
This organization, formerly the National Council of State Boards of Engineering Examiners, was organized in 1902. It is composed of representatives from the boards of registration for engineers from each of the 50 states and possessions, some 56 boards in all.

The first president of the National Council of State Boards of Engineering Examiners (NCSBEE) was Marcel Garsaud of Louisiana, one of the early presidents of the Louisiana Engineering Society and former Chief Engineer and General Manager of the Board of Commissioners of the Port of New Orleans. The current President-elect is Major General Roy Sessums of Louisiana, a native of Ruston, now vice-president of Freeport Minerals Company. Louisiana has always been active in the National Council of Engineering Examiners (NCEE), and the members of the State Registration Board have kept current with national developments in registration practices through attendance of its meetings and by working on its committees.

The National Council of Engineering Examiners (NCEE) meets August 21-26 in Seattle, Washington this year. At this meeting the latest revisions of the Model Law for Registration of Engineers and Land Surveyors will be discussed. These changes, passed in August 1971, have been correlated and incorporated in the text and will be presented for review This latest revision of the Model Law will be useful to the Board in its study.

In making its study the Registration Board will consult and counsel with all parties expressing interest and will have its staff compile and correlate the information received. The Board does not intend to lobby for or against any specific changes in the law, but will be prepared to advise any interested parties of the probable effect, based on the Board's experience and study of proposed changes.

PRESIDENTIAL PRIVILEGE



LES President
Hoyt W. Brown, Jr.

I have felt for many years any organization without real active controversy is in some state of decay and fast becoming sterile. Organizations must be a force for change or they have no purpose. Members lose interest, attendance at meetings falls to the hand-full of officers and some few committee workers convincing each other no one else understands the problems or purpose of the group. Every meeting beomes a hand-wringing affair of frustration for the few and utter boredom for the masses whose main purpose seems to be avoiding being at any meeting at all.

I have been very fortunate in having T. J. Hogue share many views with me. Together we felt we could jointly initiate some changes and in two years start some new directions and activities for the Society. We were fortunate in having the Professional Engineers in Industry (P.E.I.) aggressively asserting their leadership under James Janssen. This awakening giant (representing approximately 60% of the L.E.S. membership), aware of its responsibilities, and moreover, assuming them, determined that L.E.S. was no longer just a social organization that abrogated the leadership of the profession to the private practice engineers, because no one else would assist the PEPP group in assuming leadership. The P.E.I.'s recognized further they had a large measure of responsibility for the situation existing today in the engineering schools of the nation, particularly in the state of Louisiana. It was this P.E.I. Section that lead the fight for the **L.E.S. Study Report on Engineering Education in Louisiana.** They put the educators on notice the profession wanted change and P.E.I.'s were willing and determined to participate in this change.

The P.E.I. Section recognized there were ethic problems within the Society. These problems were dividing the Society and were occupying a disproportionate share of the Society's time and effort; while only the Professional Engineers in Private Practice Section was directly affected by rules laid down for the entire membership.

Their concern resulted in a landmark decision by the Society to adopt changes in the Code of Ethics by which ALL members could, and should, govern their professional conduct. These changes were suggested by a committee formed from the chairmen of all functional sections.

The P.E.I. Section also lead the fight for legislative changes in the State Registration Law. Although none of the changes submitted became law, there is no question that the society will be back next session stronger than ever.

The whole point of the above paragraph is "CHANGE FOR PROGRESS THROUGH AGGRESSIVE LEADERSHIP."

We are a moving Society, each of us can influence this change and be a part of it. Engineers can no longer afford to be an inward profession, nor L.E.S. an inward Society. We must make our thoughts not only known but also acted upon favorably. We produce nothing by doing nothing and only complaining among ourselves.

The Society has proven that it will support worthy causes with our time and our money. In the past two years we have had two fund-raising activities —the L.E.S. Study Report and the Legislative Program. We have spent over $20,000 raised from voluntary contributions and these efforts are not in vain. The Study Report is showing its effect and will be the subject of an article in the near future. The legislative battle produced no real victors but has brought into the open problems most of us knew existed, but some preferred to ignore hoping time alone would solve them or delays would result in a perpetual status quo. This is not to be!

L.E.S. has moved to a position of being a problem solver. Our recent activities have resulted in approximately 100 new members in the short time of two months; the recent ballot survey of all engineers registered in the state had approximately 3,500 responses (about 8 to 1 favorable to our legislative program), a fantastic 30% of those ballots mailed.

The Engineering Management Program is being expanded this fall. L.S.U.-N.O. and Delgado have agreed to interchange facilities and faculty and implement the engineering technology recommendation of the engineering education study team. The Council of Deans has been formed. Southwestern University has combined some of its master programs. L.S.U. has put in a Bachelor of Science degree in Engineering Technology—all suggested in our report. The surface has been scratched and we are now moving on education as never before.

The State Board of Registration is investigating desirable changes in the Registration Law. The Salary Study Report, particularly for government engineers, is seeking ways of implementation and needs your help. The New Orleans Chapter spoke out on faulty interstate highway routing. Professional Engineers are concerned citizens offering our knowledge and experience to our communities. Join with us and try it—we think you'll like it.

Hoyt W. Brown, Jr., Biography

The new president of LES is a mechanical engineer, the New Orleans District Manager of Combustion Engineering.

A native of Georgia, Hoyt W. Brown, Jr., attended the United States Merchant Marine Academy and upon graduation entered active duty with the Navy.

While in the service of his country from 1943 to 1946, he saw duty in the Boiler Division Office of the U.S.S. Fanshawbay, as Assistant Chief Engineer on the U.S.S. Mount Olympus, and as Chief Engineer of the U. S. Naval Reserve Division, Madison, Wisconsin. He was awarded survivor citations for his military record.

In 1949 he earned his B.S. in Engineering from the U. S. Merchant Marine Academy and his B.S. in Mechanical Engineering from the University of Wisconsin. That year also marked the beginning of his association with Combustion Engineering.

President Brown gained experience and expertise with the firm in the fields of steam generators, nuclear reactors and air pollution control systems. After serving in the District Sales Division in Birmingham, Alabama, from 1951 to 1959 he moved to the New Orleans office as District Manager.

The new president holds membership in the National Society for Professional Engineers, served as Vice President of the Alabama-Mississippi Chapter of the American Society of Mechanical Engineers, and began his executive duties with the Louisiana Engineering Society as State Director in 1969, serving as Vice President in 1970, and as President-Elect in 1971.

He is married to the former Sylvia Dickerson, and has three children, Terry, Kelly, and Stacey Lynn, and two children, Kim and Hoyt III, who reside in Wisconsin.

LES SALARY STUDY

Editor's Note: Previous editions of the LOUISIANA ENGINEER have reprinted the Salary Study Committee's general report and the report on Engineers in Government. This report outlines the findings on Engineers in Education and Private Practice.

Mr. T. J. Hogue, State President
Louisiana Engineering Society

Dear Mr. Hogue:

The L.E.S. Engineering Salary Study Committee has completed the mission assigned to it by the Board of Directors on May 22, 1970, and herewith submits its final report to you.

The Committee has done considerable research and has discussed many new, far-reaching, and controversial concepts in the preparation of this report. In order to give the Board of Directors the benefit of this information and research, most of the material is included in this report. We ask that the Board read, digest and evaluate the material and recommendations contained therein and make its own determination if any, or all, of the report should be published to the membership and if any, or all, of the recommendations made should become the official policy of the Society.

It should be noted that there were several areas in which there was honest and respectful disagreement among the members of the Committee. Many of these areas are income-related, but should be studied in detail as separate subjects.

However, the Committee is in complete agreement on these major recommendations:

1. The L.E.S. Board of Directors should make it clear that the economic status of its members is one of the Society's primary concerns.
2. The L.E.S. should adopt the salary schedule program contained in Attachment 2 of this report.
3. The Engineering Salary Study Committee feels that its mission has been completed and recommends dissolution of the Committee. However, to continue this important work, the Committee recommends formation of committees as follows:
   A. **Economic Status Committee** —This should be a permanent committee responsible for research and studies relating to the economic status of the engineering profession, especially in the area of comparative salaries with other professions, trends in fringe benefits, stability of employment, determining average starting rates, etc.
   B. **Ad hoc committees, or subcommittees of the Economic Status Committee**, to address themselves in detail to current major or controversial problems, which developed diverse opinions among the members of the Salary Study Committee, such as accreditation of employers, pension plan portability, position evaluation consultation to employers, etc.

The Committee thanks the Louisiana Engineering Society for being given the opportunity to serve in this most interesting and challenging assignment.

Very truly yours,

M. L. Hurstell, P.E., Chairman
L.E.S. Engineering Salary Study Committee

Members: H. L. Henry, Jr., P.E.
F. M. Heroy, Jr., P.E.
L. L. Moody, Jr., P.E.
J. W. Roach, Jr., P.E.
R. A. Mouton, P.E.

V. ENGINEERS IN EDUCATION

General

The engineer in education can wear many "hats." He is first and foremost a teacher, but he may also be a researcher, administrator, consultant, author or inventor. This multi-faceted career orientation will be evaluated by this Committee in establishing a recommended salary schedule for the Education Engineer. At present, engineers are to be found teaching at the elementary school, high school, junior college and university level. The scope of this section will be limited to engineers in education at the college or university level, since it is felt that the L.E.S. can do little to influence salaries at the elementary or high school level even if the teacher's major is in engineering. The input data for this section will be limited to information accessible from state institutions since most Louisiana engineers in education are to be found in this category; however, the recommendations proposed are meant to apply equally to engineering educators in private schools.

Salary Schedule

The salaries of educators tend to be determined by direct negotiation more often than other engineer categories. In some cases the salary schedule is fixed for each post but the position to be filled is under negotiation. A university may have a certain number and level of positions to be filled and, of course, searches for the best man for each one. Therefore, the educator's salary tends to fluctuate severely with the number of applicants available. The survey of Professional Income of Engineers yields the following infor-

mation relative to median annual salary for 1970 for engineers in educational institutions:

Years Since B.S.	Rank*	Annual Salary Educational Inst.	Annual Salary All Engineers
5	7	$11,850	$12,750
10	7	13,800	15,000
20	5,6 (tie)	17,100	18,000
30	3	18,400	18,500

* Out of eight categories, rank 1 is highest salary.

The engineer in education falls below the average salary in all experience levels.

This Committee will not attempt to describe the experience or complexity of work level for each of the grade levels listed below. This has already been done to a great extent and in great detail by most educational institutions, and the position descriptions have become rather standardized. Instead the commonly accepted university titles in designating each grade will be used.

Committee-recommended minima, medians, and maxima for each level, together with average salaries paid to engineers in twenty-three universities in the southeastern states as well as those paid in a typical state university in Louisiana, are listed. As was done in other sections of the report, ratios of each grade level to minimum starting level are indicated to show career salary progression. It is also intended that the salary schedule shown be updated each year to correspond to changes in the general beginning rate of all engineers which in 1970 was a median figure of $870 per month.

The salary schedule represents direct payments from the educational institution, **not** total income. Monthly salary is used to avoid confusion between nine-month and twelve-month salary arrangements.

The schedule above takes into account the responsibility, ability and educational attainments required of the engineer in education. It recognizes that the standard degree for entry into the university academic world, on a permanent basis, as an engineering teacher has come to be the Ph.D. It is commensurate with similar positions in Attachment No. 2.

The above schedule assumes a full-time teacher. The typical semester work load for one doing full-time university teaching is twelve semester hours of courses for those on the semester system and nine semester hours of courses for those on the quarter system. Additional non-teaching duties include committee and special assignments. Virtually all teachers volunteer or are appointed to from one to fifteen such tasks, depending on their

ATTACHMENT NO. 2

MINIMUM, MEDIAN, & MAXIMUM MONTHLY INCOME REFERENCED TO
SUMMER, 1970 PER VARIOUS SURVEYS - CORRELATED PER ATTACHMENT NO. 1
(WEIGHTING FACTORS - 1970/1969 = 106.1, 1969/1968 = 105.5)
(ROUNDED TO NEAREST $10 PER MONTH)

GRADE	NSPE	ASCE[1]	FEDERAL G.S.[2]	PROPOSED LDH[3]	LA. CIVIL SERVICE[3]	XYZ[4]	UTIL.[5]	PEPP[6]	COMMITTEE RECOMM. AMOUNT	RATIO
	870	750	710	840	810	690		580	800	1.00
I	-	840	810	1040	930	830		680	850	1.06
	-	930	890	1240	1020	960		760	900	1.13
	-	820	880	920	840	770	790	690	850	1.06
II	890	930	1000	1120	960	920	890	790	950	1.19
	-	1070	1100	1320	1080	1090	980	860	1050	1.31
	-	900	960	1000	870	860	870	780	1000	1.25
III	950	1030	1110	1240	1050	1030	1000	890	1150	1.44
	-	1170	1220	1480	1200	1220	1090	990	1400	1.75
	-	990	1050	1160						
IV	1150	1130	1230	1360	960	990	950	890	1250	1.56
	-	1290	1370	1560	1120	1180	1120	1030	1400	1.75
				1250	1280	1430	1240	1150	1650	2.06
	-	1120	1250	1500						
V	1360	1330	1590	1750	1040	1130	1050	1050	1400	1.75
	-	1590	1920	1300	1200	1370	1260	1220	1650	2.06
				1550	1360	1660	1430	1360	2000	2.50
	-	1390	1730	1800						
VI	1660	1600	2020	1400	1080	1320	1200	1220	1700	2.13
	-	1770	2250	1650	1260	1580	1440	1440	2000	2.50
				1900	1440	1960	1670	1580	2400	3.00
				1500	1120					
	-	1570	2020	1750	1320			1410	2000	2.50
VII	2030	1710	2360	2000	1520	-	-	1650	2400	3.00
	-	1940	2630	1600	1200			1900	2800	3.50
				1850	1450					
				2100	1700					
	-	1860	2340	1700	1300			1630	2500	3.13
VIII	2710	2040	2890	2050	1650	-	-	2000	3000	3.75
	-	2140	3140	2400	2000			2450	3500	4.38

[1] State Highway Dept. Category, median entrance and maximum rates, median extrapolated from middle 50% rates.
[2] Per January 10, 1971 Schedule, which is designed to compare to industry rates of June, 1970 according to B.L.S. Survey. Step 6 assumed median.
[3] Midsteap assumed median.
[4] Mechanical Engineer Used, medians used for range.
[5] Average of all replies.
[6] NSPE/PEPP, C.E.C., A.I.C.E. 1970 Survey of Private Practice; *Consulting Engineer*, January 1971, Average Salaries—All Firms.

COMPARISON OF MINIMUM, MEDIAN, AND MAXIMUM MONTHLY INCOME
FOR ENGINEERS IN EDUCATIONAL INSTITUTIONS
Referenced to September 1970

(rounded to nearest $10 per month)

NSPE Grade	Title	Median 23 S.E. Univer.	A La. State School	Committee Recommended Amount	— Ratio
		$ 810	$ 670	$ 800	1.00
I, II	Instructor	920	670	950	1.19
		1110	670	1050	1.31
		1090	1110	1000	1.25
III, IV	Asst. Prof.	1410	1300	1350	1.69
		1590	1310	1650	2.06
		1270	1220	1400	1.75
V	Assoc. Prof.	1560	1420	1650	2.06
		1920	1590	2000	2.50
		1420	1420	1700	2.13
VI	Professor	1950	1570	2000	2.50
		2520	1680	2400	3.00
		2000	1440	2000	2.50
VII	Dept. Head	2260	1590	2400	3.00
		2520	1710	2800	3.50

magnitude. Almost all full-time teachers report a typical academic work-week of 40 to 50 clock hours. There are no minimum work-week hours specified; each person is expected to perform his assigned tasks reasonably well. This is as it should be for a professional person. It is relatively easy to identify the work-load for one who only teaches. It is more difficult to identify the work-load of deans, department heads, and part-time teachers/part-time researchers.

The Committee believes that special salary consideration should be given to people with outstanding teaching ability. This is the one area of educational ability which is not otherwise compensated.

Other Income

The above salary schedule lists income on a monthly basis; some educators are paid on a nine-month basis and must earn supplemental income in order to attain an annual income comparable to their fellow engineers.

One method used by Louisiana educators is outside consulting work. Consulting is permitted and encouraged by colleges for both teachers, department heads and deans. This policy has been carefully drawn up and approved by the universities and the Louisiana Engineering Society:

> "Since an engineering faculty member is a part of the engineering profession, and since his teaching duties, as in any other profession, are performed effectively only when his training and education are adequately supported by experience; the Louisiana Engineering Society encourages the participation of engineering faculty members in some applied outside engineering work.
>
> "The engineering teacher has a responsibility to his profession and to his school to see that his outside work conforms to established canons of practice. The following conditions form the basis for this Louisiana Engineering Society policy:
>
> "1. The quantity of outside work should be such as not to interfere with proper teaching.
>
> "2. The school administration should be kept apprised of all work done during the school year.
>
> "3. The salaries for personnel employed on engineering work by an engineering faculty member should be in accordance with those doing similar work in the area of employment.
>
> "4. The fees for this work should be in accordance with the schedule of fees recommended in the Manual of Practice as published by the Louisiana Engineering Society and the Consulting Engineers Council of Louisiana."
>
> (Passed October 23, 1969)

From information supplied to the Committee, teachers are spending up to a maximum of one day per week consulting, in order that the consulting may not interfere with their full-load duties at the university and to insure that they adhere to the Code of Ethics. Full-time consulting is permitted by colleges during summers, holidays, etc. when the university is not in session. The per-

centage of educators engaged in consulting has not been documented, but it is estimated to be approximately one out of three.

Engineering faculty members also find outside work in industry and government agencies through direct employment or by research grants. University-sponsored seminars and short-courses also provide opportunities for teachers to earn additional pay. This is not unlimited but regulated by the universities. Authoring of textbooks and other educational materials is an area where a teacher has an opportunity to engage in an activity that could lead to additional income.

Fringe Benefits

Fringe benefits for educators fall below the level found in other areas of engineering. Statistics are unavailable but most educators report benefits of about 10% of salary. In Louisiana, these include group life and hospital insurance (state pays part), sick leave, annual leave (nine-month employees not eligible), retirement partially financed by state, sabbatical leave with 75% pay under certain conditions, and annuity with delayed income tax payments (employee only pays into annuity).

This Committee recommends that L.E.S. appoint a standing committee to determine the actual percentage of fringe benefits for Louisiana engineering educators and to formulate a program for implementation in stages of a benefit-package comparable to other engineering fields. As noted earlier in this report, the "normal-benefit" package would amount to 30% to 35% of base income.

Of particular importance to educators would be a pension plan with "portability." Louisiana colleges would be in an excellent recruiting position if they sponsored a plan similar to the Teacher's Insurance and Annuity Association (TIAA), which has achieved a substantial degree of portability among the pension plans of most, but not all, of the universities and independent schools in the U. S. The employing institution determines the age and/or length of service at which the employee is eligible for TIAA coverage. Once covered, the employee owns his own TIAA contract, and the employer's contributions are then fully vested.

Recommendations

1. The Louisiana Engineering Society should urge both state and private institutions to implement the salary schedule contained in this section, including due recognition for outstanding teaching ability.
2. The Society should establish a standing committee to evaluate and recommend improvements in engineering educators' benefit-packages, including pensions with a degree of portability.
3. The Society should continue to encourage professional engineers in education to participate in applied outside engineering work, only to the extent that they keep abreast of the latest relationships of theory and application, to improve their performance in their chosen area of practice, and provided that they adhere to the policy established by the Society for such work.

VII. ENGINEERS IN PRIVATE PRACTICE

General

The engineer in private practice may be an individual practitioner, a member of a partnership, a principal of a large firm, or a professional employee of a major or small engineering firm. Whatever his status, he is characterized as being involved in professional consulting work as his principal and chosen area of practice. This section of the report shall be confined to such individuals.

Compensation Levels

The Committee recommends implementation of a salary schedule for Engineers in Private Practice **compatible** with that contained in Attachment 2 of this report, subject to these important considerations:

A. Risk vs. Profit-Sharing

It should be understood that certain positions in private practice involve personal capital risk and require certain entrepreneurial skills. Often such ventures offer the incentive of profit-sharing or promise of future growth. These benefits are usually not present to such a degree in other functional practice areas. Therefore, there exists the dual situation in private practice—if an employee is participating in the benefits accruing to him in the growth of the firm, either through profit-sharing or otherwise, then he should be willing to forego a high present level of compensation; however, if he is taking the present risk of possible sporadic employment or poor job security without hope of future benefits, then he is entitled to a higher than normal present salary.

B. Income Averaging

The engineer in private practice should use his average income over three to five years in comparing his economic status to others in government, education, or industry. Many private practice firms, especially smaller ones, undergo fluctuations in business, usually beyond their control, which prohibit them from maintaining consistently high salaries. As long as the private practice engineer maintains an **average** salary comparable to his colleagues, he should have no room for complaint. However, his regular monthly salary should be tied to a "living wage" which, in turn, would not bankrupt the firm every time the payroll came due.

C. Position Levels

Discretion should be exercised in designation of N.S.P.E. Grade Levels, as contained

in Attachments 1 & 2 of the report, when applying them to Private Practice firms. Titles and responsibilities, in small firms especially, should be carefully correlated with corresponding capabilities required in other functional areas, irrespective of exact job titles or precise duties.

Professionalism

In some cases in Private Practice, particularly in smaller firms, it may be necessary for the engineer to perform some sub-professional duties because of a lack of support personnel. The engineer may also lack certain amenities, such as private office space, in a firm struggling to establish itself. However, the employer-employee attitudes should always conform to the highest professional standards. The engineer in private practice, on his part, owes a special obligation to his firm to maintain and improve his own professional competence, because the success or failure of the enterprise directly depends on his ability.

Fringe Benefits

The "mix" of fringe benefits in private practice may vary somewhat from that found in other areas. For instance, the amount of vacation time may tend to be less, especially in smaller firms. On the other hand, pension plans with liberalized vesting provisions would be a useful benefit. The Committee has recommended that L.E.S. undertake further study on pension plans before definite recommendations are made. Bonus plans, or profit-sharing, are salary-type fringe benefits found in many private practice firms. Professional liability insurance is an expense unique to many private practice employers. Payment for overtime work has been discussed in earlier sections of this report. Overtime practices may vary somewhat in various firms, depending on the type and size of the company and the schedule of work involved. Payment of overtime may even be affected by governmental regulations. However, in all cases, the treatment of overtime should be clearly understood, fairly and consistently applied, and should not take advantage of the professional employee.

Recommendations

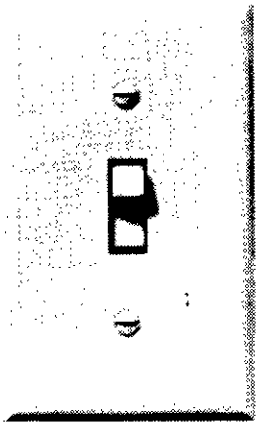
This committee recommends:

a. Implementation of the salary schedule contained in Attachment 2 of this report for engineers in private practice, taking due note of the considerations contained herein.

b. Provision of a fringe benefit package in an amount consistent with other functional areas; certain typical private practice benefits should be taken into account in evaluating the package.

c. Study by L.E.S. of pension plan vesting provisions before recommendations are made.

It's not worth a flip...



unless something happens.

Your Louisiana Investor-Owned Electric Companies know how much you rely on having something happen when you flip a switch. That's why we work every minute of every day to assure that you have reliable electric service at your fingertips. As a matter of fact, our industry has a 99.98% record of success in keeping the power flowing.

And planning ahead for your electric needs of tomorrow is an even bigger job. Whether it's building new power generating facilities or developing more control centers to monitor our systems.

We know you're counting on us to have the electricity ready and waiting. After all, if electric power isn't just a fingertip away, all the switches in the world aren't worth a flip.

Louisiana Investor-Owned Electric Companies

Central Louisiana Electric Company • Gulf States Utilities Company • Louisiana Power & Light Company
New Orleans Public Service Inc. • Southwestern Electric Power Company

LEGISLATIVE REPORT

Carl Heck, Jr., Chairman of the L.E.S. Legislative Committee, expresses his thanks to all engineers who assisted the committee during this past session of the Legislature.

Chairman Heck reported that L.E.S. was active on a number of fronts, and served as a watchdog for the engineering profession. There were a number of bills directly affecting engineers acted upon by the legislative committee.

L.E.S. combined with the medical profession and others to fight and kill Senate Bills 640 and 699 which would have consolidated our Board of Registration within the Department of Occupational Standards. The LES opposed the Architects and Engineers Selection bill after it was amended to require competitive bidding. The bill was later withdrawn from the file of the Senate. LES opposed H.B. 205, 206, 207, 208, and 209 which would have declared "hold harmless" clauses illegal and helped kill it. We opposed S.B. 24 which would have arbitrarily fixed registration fees at $100 per year, and the bill was killed. LES persuaded Senator Nicholson to withdraw S.B. 122 which would have created a Board of Registration for Safety Engineers and give the profession time to study the whole problem of registration of technicians.

L.E.S. was successful in the re-enactment of our sewerage grant supplement bill (Act 171) and with the Land Surveyors program. LES supported the entire surveyor's program and was successful in passing H.B. 636 (which repealed antiquated portions of the old Parish Surveyor Statutes). The surveyors passed H.B. 634 which provided the surveyors with a lien law to aid surveyors in collecting their fee.

The L.E.S. package cleared the House Committee with the exception of the bill which would have removed the exemptions for engineers in government. That bill was killed in the committee because the members felt that it would cost too much money to hire competent or registered personnel to do engineering work.

Once the bills were placed on the calendar for floor action, objection was raised by the telephone company. The bill they voiced the greatest objection to was the one which would repeal the long established practice method of registration, however, later they decided to fight our entire package. The telephone company did prove to be extremely effective because when our bill to establish a Code of Ethics hit the floor (a bill that no one would ordinarily oppose) we were defeated soundly.

During the floor fight which Representative Lottinger waged, statistics were used and abused by the opponents to make it look as though LES represented only a few engineers and that the vast majority of the profession was anti-LES and opposed our package. It was for this reason that we felt it imperative to take a mail ballot of all the registered engineers in the state of Louisiana. The response to our mail out was outstanding though too late to aid in passing our bills.

Response to Mail Ballot Concerning LES Legislative Package

		For	Against
H.B. 976	Repeal Long Established Practice	3067	393
H.B. 978-980	Require 16-hour exam	3021	332
H.B. 981	Repeal exemptions	2672	662

LETTERS

I am proud I was part of Reflections (Cover, **Louisiana Engineer**, June 1972). My only regret is my name did not appear as an author. Unfortunately, some did not approve—but could we expect otherwise? However, Reflections was written for a purpose that it performed completely. It informed the engineer registered in Louisiana of a situation not of our making but one that each engineer needed to be aware of and further to resolve into action one way or another. This it did.

It also showed our determination and resolve to act forcefully for the entire spectrum of registered engineers, not just the owners of a few consulting firms or other groups dominated by them. L.E.S. tries to represent the best interest of all registered engineers of these and other consulting firms as well as industrial organizations, large or small, utility companies, private or coop, universities, public or private, and government registered engineers.

Our actions are based on what we feel is best for the registered profession and not the trade or technical organizations that some of us might also rightfully have membership in.

Hoyt Brown, P.E.

Gentlemen:

The April, 1972 issue of the "Louisiana Engineer" page 17, fourth paragraph, states, "The District Courts of Louisiana acted in favor of the Board in violation suits against Pan American Engineering Corporation. . . ."

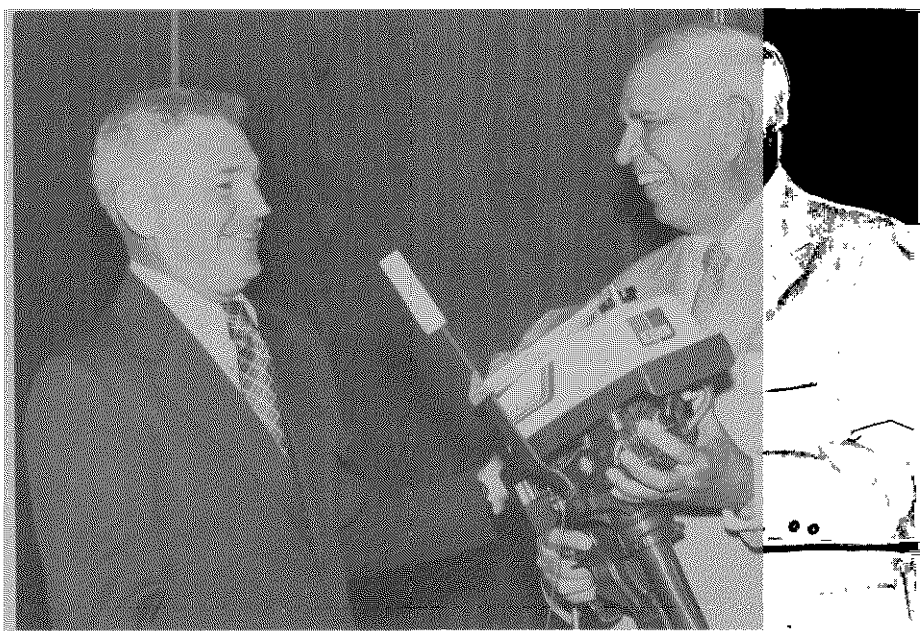
We would appreciate if you would point out that Pan American Engineering Corporation and Pan American Engineers are not the same firm. One of our best clients has already mistaken this firm for us.

Thank you in advance for your help in this matter.

D. J. WEBRE, JR., P.E.
PAN AMERICAN ENGINEERS

Convention camera

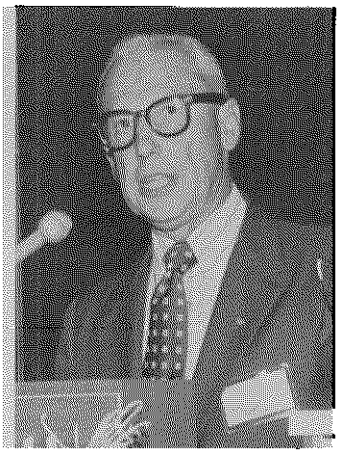
Registration for the two-state meeting was brisk.



Outgoing LES President T. J. Hogue, Jr., displays the present he received f outstanding service to the Society from Hoyt Brown, Jr., incoming Preside

Incoming officers of the Mississippi Society of Professional Engineers and the Louisiana Engineering Society were presented at the convention. At far right are LES officers (left to right) President Hoyt W. Brown, Jr.; Vice President J. J. Thigpen; Vice President Fred Culpepper; National Director Waldemar S. Nelson; State Director Brook Ewing; and State Director Jim Meyer.

MSPE President
Joe Brown

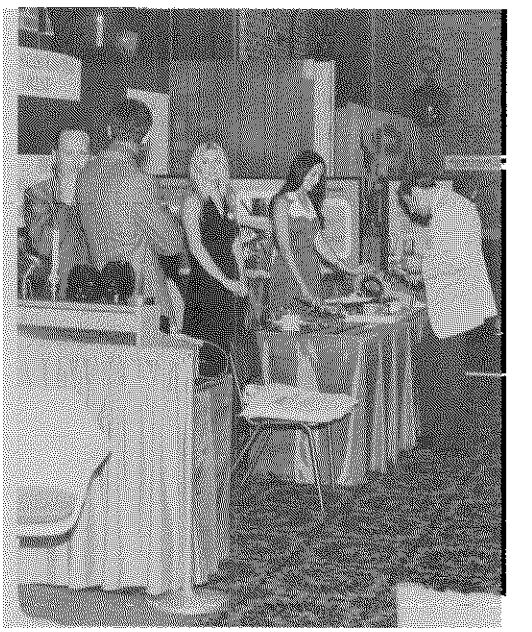


NSPE Vice President
Delbert Schmand

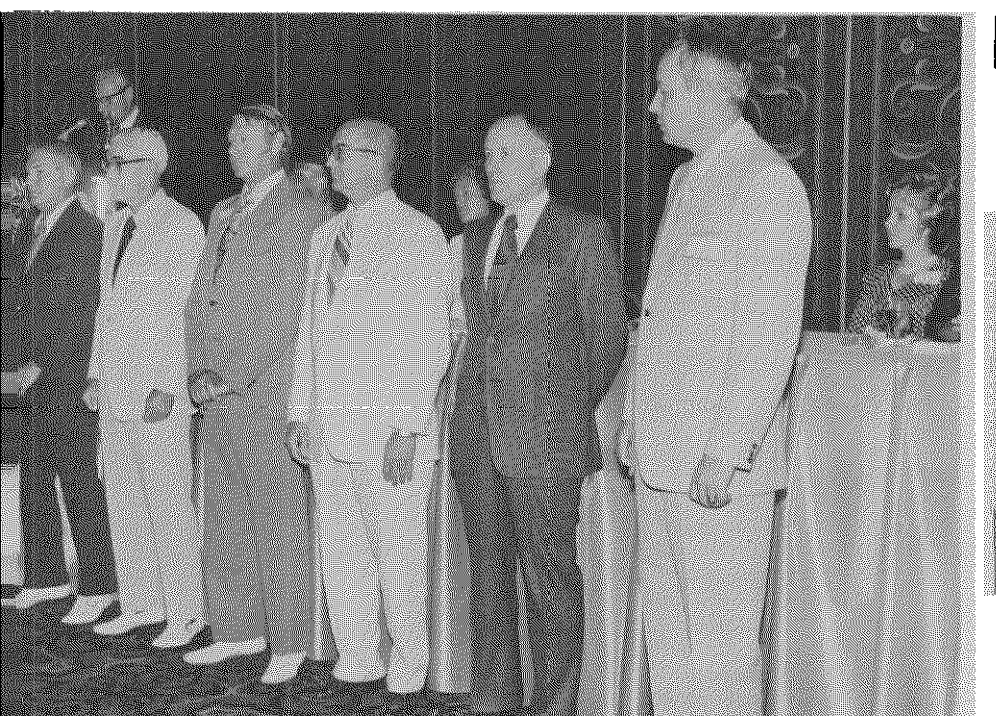
NSPE Vice President
Harold Black

rmer NSPE President Harry Sumrall and
e with Charlie Brown of Faulkner Con-
ete.

Blaise Carriere, J. C. Pittman, Mrs. Pitt-
man, and Mrs. Carriere enjoy the social
hour.



A partial view of the exhibit area.



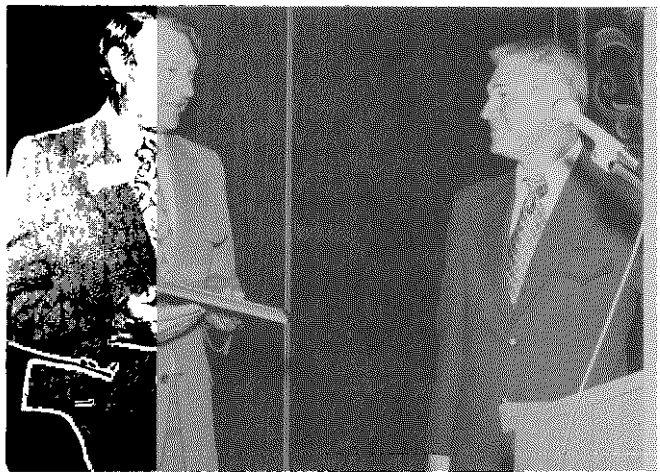
Convention Chairman Al Adoue chats with
exhibitors Mr. and Mrs. Bruce Bley.

Convention camera

Ford, Bacon & Davis was the recipient recently of the 1972 Louisiana Engineering Society Industrial Professional Development Award. Fred C. Culpepper, Jr., Executive Vice President, accepted the award.

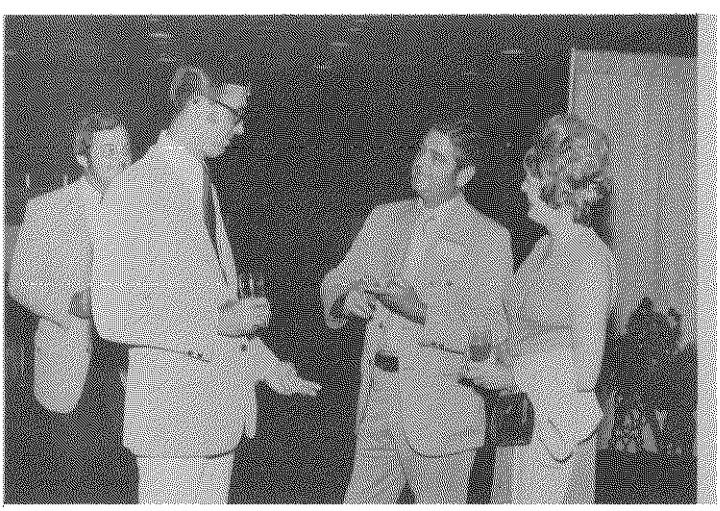
The firm was cited for its outstanding company programs encouraging employees to become licensed and its recognition of engineering registration. The company has provided continuing education and technical training for its engineers and supporting technical personnel.

Hoyt W. Brown, Jr., President of L.E.S., made the presentation and praised Ford, Bacon & Davis for its activities in L.E.S.



Representatives of Faulkner Concrete sponsored the cocktail hour.

Mrs. Dudley Hixson, Jim Meyer, Dudley Hixson, and Mrs. Lita Farrar sample hors d'oeuvres.



Ted Barton (right) of Associated Waterproofing talks about his products.

The MG Electronics & Equipment display.

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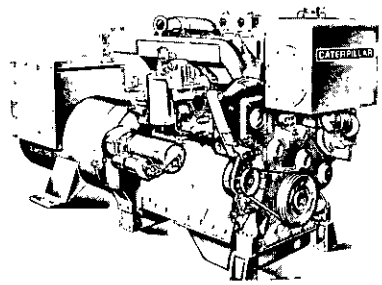

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ENGINEER MANAGEMENT COURSE

co-sponsored by

College of Business Administration
College of Engineering, LSU
Louisiana Engineering Society

OBJECTIVES

The program is designed to provide study in modern concepts of engineering management for members of the engineering profession. It is co-sponsored by the Louisiana Engineering Society, but all practicing engineers are invited to participate. The overall objective is to up-grade the professional management competence and practice of Louisiana engineers.

SCOPE

The program, at present, consists of six courses each of which extends over a University semester. To complete the requirement for the certificate a participant must take Course A, Course C plus any two of the remaining four courses. This allows for some program flexibility. Each of the courses meets fifteen times during evenings and lasts for two and one-half hours. Thus, a student could complete the entire sequence by attending the classes for four consecutive semesters. No courses are offered during the summer term. It is anticipated that the series will be repeated; thus, one could enter the program after the first course offering and complete the series of four courses. The courses can be taken in any order.

ADDITIONAL OFFERINGS

The objective of this program is the continuing of education of engineers in industry. The Engineering Management program coordinator will be happy at any time to schedule a special offering for any group of 20 or more people. Such offerings may be on any engineering or management related subject. (Special offerings will not normally apply toward the certificate unless they represent comparable material.) Persons interested in special offerings should contact the program coordinator for details (see attached form).

FACULTY

The courses will be taught by regular faculty members of the Colleges of Business Administration and Engineering or by able, qualified professors from other universities in the State.

CERTIFICATE

Upon completion of four acceptable courses the participant will be awarded a CERTIFICATE IN ENGINEERING MANAGEMENT by the Division of Continuing Education. Under certain conditions college credit also may be earned for the courses.

COST

The registration fee per participant is $125 for each course including the cost of textbooks. The program is fully self-supporting.

REGISTRATION

To insure that each student will have an opportunity to participate in discussion, enrollment in each section will be limited to thirty students.

Class sessions will be held in the University Medical Center at New Orleans, on the Baton Rouge Campus, and in other cities throughout the state where there is adequate demand. More than 150 engineers are participating in the program.

PROGRAM OUTLINE

Course A — Concepts of Modern Management

1. Understanding an organization
2. The individual in an organization
3. Organizational objectives
4. Function of managers
   - a. Creating
   - b. Planning
   - c. Organizing
   - d. Motivating
   - e. Communicating
   - f. Controlling
5. Management thought in perspective
6. Principles of management
7. Improving productivity in your organization

Course B — Economics for Engineering

1. Economic systems and functions
2. National income determination
3. Price theory
   a. Demand
   b. Cost
   c. Market structures
4. Income distribution
   a. Wage theory
   b. Interest and rent
   c. Profits
5. The money and banking system
6. Economic policy

Course C — Engineering Economy

1. Interest, the time value of money and the concept of equivalence
2. Interest formulas
3. Methods of evaluating alternatives
   a. Present worth
   b. Annual cost
   c. Rate-of-return
   d. Capitalized cost
4. Benefit-cost ratio
5. Depreciation methods
6. Analysis of multiple alternatives
7. Income tax effects on investments
8. Replacement theory

Course D — Financial Decision Making

1. Money markets
   a. Money, credit, and banking
   b. US government obligations
   c. Interest rates
2. Financial management
   a. Form of organization
   b. Financial planning
   c. Working capital
   d. Fixed capital
   e. Bond financing and borrowing
   f. Corporate stock
   g. Dividends and surplus
3. Personnel investment planning
   a. Savings institutions
   b. Security markets
   c. Security analysis

Course E — Operations Research for Engineers

1. Allocation theory
   a. Linear programming
   b. Transportation problems
   c. Assignment problems
   d. Branch and bound techniques
2. Queueing theory
   Finite and infinite population models with single and multiple channels
3. Inventory theory
   Finite and infinite shortage cost models. (Probablistic and deterministic)
4. Learning curves

Course F — Basic Engineering Statistics

1. Probability
2. Probability distributions
   a. Normal
   b. Binomial
   c. Hypergeometric
   d. Poisson
3. Density functions
4. Data treatment
5. Statistical inference
   a. Inferences concerning means
   b. Inferences concerning variances
6. Curve fitting and regression
7. Analysis of variance
8. Factorial experiments
9. Sampling theory

ENGINEERING MANAGEMENT SURVEY FORM

Please complete the following form and return it to the address below if you are interested in the FALL, 1972 Program. (Classes will begin during the week of September 11, 1972.)

NAME _____

ADDRESS _____

CITY & STATE (and zip code) _____

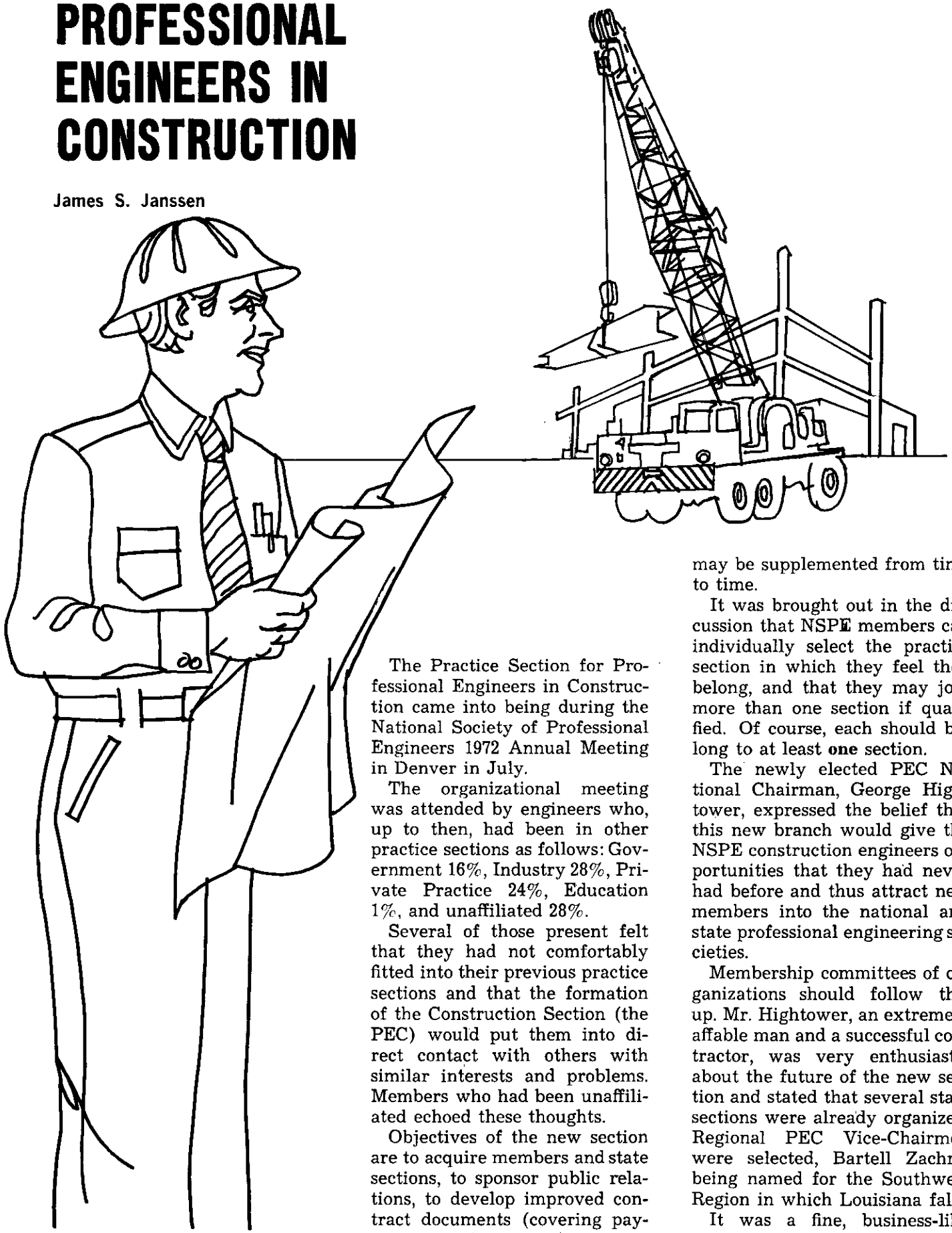
MAIL FORM TO: Dr. Thomas G. Ray
Mechanical, Aerospace & Industrial Engineering Dept.
Louisiana State University
Baton Rouge, Louisiana 70803

I am interested in the courses indicated. (Please show first choice with a ***1****, second with a* ***2****, etc.)*

Courses Offered	*Locations*
____ *Management*	____ *Baton Rouge*
____ *Economics*	____ *New Orleans*
____ *Engineering Economy*	____ *Lake Charles*
____ *Finance*	____ *Lafayette*
____ *Operations Research*	____ *Shreveport*
____ *Engineering Statistics*	____ *Alexandria*
	____ *Monroe*
	____ *Houma*

PROFESSIONAL ENGINEERS IN CONSTRUCTION

James S. Janssen



The Practice Section for Professional Engineers in Construction came into being during the National Society of Professional Engineers 1972 Annual Meeting in Denver in July.

The organizational meeting was attended by engineers who, up to then, had been in other practice sections as follows: Government 16%, Industry 28%, Private Practice 24%, Education 1%, and unaffiliated 28%.

Several of those present felt that they had not comfortably fitted into their previous practice sections and that the formation of the Construction Section (the PEC) would put them into direct contact with others with similar interests and problems. Members who had been unaffiliated echoed these thoughts.

Objectives of the new section are to acquire members and state sections, to sponsor public relations, to develop improved contract documents (covering payments, retainage, etc.) to cooperate with existing contractors organizations, to establish construction courses in universities and to follow legislation. These may be supplemented from time to time.

It was brought out in the discussion that NSPE members can individually select the practice section in which they feel they belong, and that they may join more than one section if qualified. Of course, each should belong to at least **one** section.

The newly elected PEC National Chairman, George Hightower, expressed the belief that this new branch would give the NSPE construction engineers opportunities that they had never had before and thus attract new members into the national and state professional engineering societies.

Membership committees of organizations should follow this up. Mr. Hightower, an extremely affable man and a successful contractor, was very enthusiastic about the future of the new section and stated that several state sections were already organized. Regional PEC Vice-Chairmen were selected, Bartell Zachry, being named for the Southwest Region in which Louisiana falls.

It was a fine, business-like meeting; the PEC Practice Section is now a going concern and a healthy member of the family of NSPE Practice Sections. May it prosper and grow!

Dear LES Member:

We propose to form a functional section entitled, "Professional Engineers in Construction." To determine the interest of the membership for the formation of this functional section, I would appreciate if you would detach the lower part of this page, fill it out, and return it to Louisiana Engineering Society headquarters.

The objectives of the new section will be

. . . *to sponsor public relations*
. . . *to encourage development of improved contract documents*
. . . *to cooperate with existing contractors' organizations*
. . . *to encourage establishment of construction courses in universities.*

In addition, we would hope to monitor legislation which might affect the construction industry in the state.

FRED C. CULPEPPER, JR.
Second Vice President

Return to: LOUISIANA ENGINEERING SOCIETY
P. O. Box 2683
Baton Rouge, La. 70821

FORM:

PROFESSIONAL ENGINEERS IN CONSTRUCTION

Name: _____

Business Address: _____

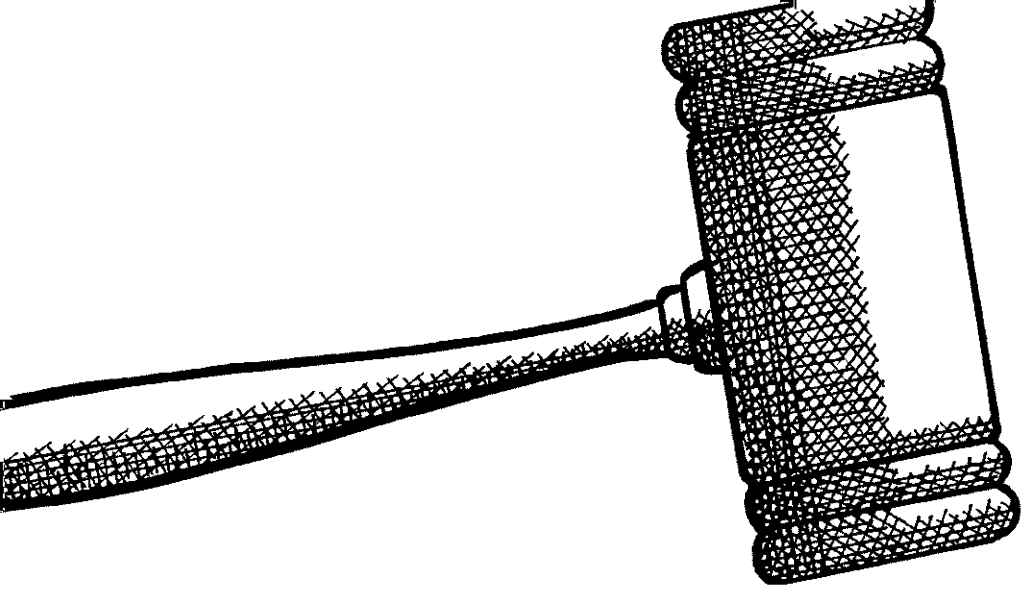
_____

Type of Business and Position: _____

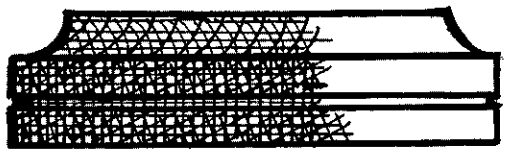
_____

_____

Chapter: _____



NSPE ANNUAL MEETING



The National Society of Professional Engineers, at an action-packed 38th Annual Meeting in Denver, came to grips with a number of professionwide issues, including engineer employment guidelines, income - benefit ranges, and a stand against competitive bidding for professional design services.

The week-long meeting was witnessed by an unprecedented number of liaison society representatives and visitors from technical engineering societies. By the time it ended, NSPE's Board of Directors approved in principle a set of guidelines for professional engineering employment; approved recommended income-benefits ranges for professional engineers; approved a firm stand by the entire National Society in opposition to competitive bidding for professional design services; authorized the appointment of a task force to develop a comprehensive white paper on collective bargaining for professional engineers; and modified its existing policy on collective bargaining.

In its approval of guidelines for professional engineering employment, the NSPE board accepted a document (available upon request) which covers employment practices for both engineers and employers in terms of recruiting, work environment, compensation, positions and titles, responsibility and authority, utilization, registration, career development, professional activities, and communication. Approval of recommended income-benefits ranges puts NSPE on record as supporting specific salary ranges for engineers in various position grades (document available upon request).

NSPE's Board of Directors strongly supported five recommendations of the NSPE Task Force on Competitive Bidding Implications and reaffirmed the Society's position that competitive bidding for professional engineering services is not in the public interest. The action authorized NSPE to defend its position against possible Justice Department litigation in connection with a Civil Investigative Demand previously served on the National Society.

In other action at the Denver Annual Meeting, the board debated revising an NSPE professional policy (No. 27-B) relating to employment practices — collective bargaining—and voted to authorize newly elected president James F. Shivler, Jr., to appoint a task force to explore the whole question of collective bargaining for professional engineers. A major white paper on this subject will be prepared in the coming months. The task force will strive for a presentation of all the ramifications of collective bargaining as these pertain to professional engineers in government service and employees in industry and consulting firms.

Opposition to the final language of the NSPE policy revision regarding collective bargaining was expressed by some board members and NSPE/PEPP spokesmen. The modified policy statement reaffirms NSPE's long held position that ". . . collective bargaining is not a desirable or appropriate mechanism to achieve the objectives of proper employment practices." The new policy also says, however, that ". . . in the event that laws, ordinances or regulations mandate that an engineer or group of engineers bargain for legitimate goals," then

the general principles set forth in NSPE's Administrative Policy No. 20 shall apply.

The NSPE board also approved a policy endorsing engineer compensation if work planned for extended periods is over and above normal professional responsibility. A resolution from the New York State Society of Professional Engineers calling for the adoption of the Manual of Professional Engineering Practice of that state society was referred by NSPE's board to PEPP for consideration.

A directive was given by the board to an existing NSPE committee to work out a national, recommended standard for income, fringe benefits, and solutions to end discrimination against older engineers. The committee will have a target completion date of January 1, 1973, and will include representatives of education, industry, government, private practice, technical societies, and construction.

Other board approved resolutions included: a professional policy of NSPE to encourage engineers in applied research to become registered, and that NSPE support legislation to amend state registration laws to embrace engineers in applied research. Another resolution urged that the full amount of Federal Highway Trust Fund revenues be used for their intended purpose.

The new Professional Engineers in Construction (PEC) practice section of NSPE became a reality in Denver. The group adopted a set of rules of government and operation and elected George B. Hightower, P.E,. of Atlanta as its first chairman. PEC plans to actively pursue such areas of interest as construction cost control, management-labor relations, legislation, contract documents, professionalism and ethics in construction, continuing education, registration, building codes, community involvement, and occupational health and safety.

According to Mr. Hightower, PEC has set up a list of objectives that includes establishment and maintenance of high standards of competence and ethical conduct, and cultivation of public appreciation of the work of the engineer in construction. Mr. Hightower stressed improvement of engineer-management relationships and encouragement of participation in community and civic affairs as high on their priority list.

On the non-business side of things, the Denver meeting ended the dynamic term of NSPE President J. Calwell Wilson, P.E., and ushered in a new leader — James F. Shivler, Jr., P.E., president of Reynolds, Smith, and Hills, Jacksonville, Florida-based consulting firm. Robert L. Reitinger, P.E., chief engineer of the Philadelphia plant of Rohm and Haas, also was installed as NSPE president-elect.

President Wilson, in his "State of the Society" address, noted the high interest and total representation at the Annual Meeting by liaison society observers and other visitors. He called attention to NSPE as the "leadership element of the engineering profession representing a diversity of regional and practice area interests coming to grips with the thorny problems which are essentially the spin-off of basic challenges facing the technological applications community in the 1970s."

Three significant awards also highlighted the meeting. The annual PEPP Award for outstanding service to the private practice sector of the profession went to consulting engineer Harry E. Bovay, Jr., P.E., president of Bovay Engineers, Inc., Houston.

The 1972 Industrial Professional Development Award for forward-looking engineering employment practices was awarded to the Mellon-Stuart Company of Pittsburgh. The highest honor given by NSPE to an individual, the NSPE Award, went to Dr. Ralph B. Peck, P.E., world-renowned authority in soil mechanics and foundations and professor of foundation engineering at the University of Illinois, Urbana-Champaign.

PROPOSED PROFESSIONAL POLICY NO. 27-C — EMPLOYMENT PRACTICES

NSPE believes that engineering is a profession whose practitioners must possess a high level of technical knowledge based on formal education and experience, must exercise independent judgment based on that knowledge and experience, and who must consider the public health, safety and welfare above all other considerations. The service motive must rank high in the individual practitioner's mind.

NSPE further believes that in order to encourage the practices of engineering as we believe it should be practiced, both the employers and employees have certain definite responsibilities to each other and to the public.

The employer has a responsibility to treat his engineering employees as professional individuals. The employer should recognize that the professional engineer thrives best on challenging work assignments which need a compatible working environment for their execution. He should also recognize that the engineering employee should receive appropriate recognition in the organizational structure and that his economic rewards must be compatible with other groups in our society.

The employee is responsible to his employer for the rendering of professional and highly qualified technical decisions based on competent methodology. He is also responsible for assisting in the objective and goals of the employer.

Conditions of employment must be compatible with the exercise of the individual professional responsibility.

NSPE believes that engineer/employer consultations regarding salaries, fringe benefits, working conditions, or any other factors, must be conducted with the above concepts foremost in mind. Such consultations should not be conceived nor should they arrive at agreements which will in any way deprive the individual engineer of his independent judgment.

NSPE, the state societies and their chapters shall promote the policy of bringing together all parties concerned in any employment group and shall be directly involved, if requested to sit at a round table of discussion and communication relative to their professional (and economic) status.

NSPE believes that collective bargaining is not a desirable or appropriate mechanism to achieve the objectives of proper employment practices. However, in the event that circumstances dictate that an engineer or group of engineers bargain for legitimate goals then the general principles enumerated in NSPE Administrative Policy 20 shall apply.

TULANE NAMES ACTING DEAN OF ENGINEERING

Frank Macdonald

Dr. Frank W. Macdonald has been named Acting Dean of Engineering at Tulane University pending conclusion of a search for a new dean and appointment of a successor. Former Dean Lee H. Johnson resigned effective June 30, 1972, and has been honored by being named the W. R. Irby Professor, in which position he will continue teaching engineering mathematics in the School of Engineering.

Dr. Macdonald, when interviewed concerning the future of the Tulane School of Engineering, said he was very proud that total enrollment of the School has increased every year for the past seven years whereas many engineering schools around the country have experienced substantial decreases in engineering enrollment. Tulane's School of Engineering is anticipating a substantially larger freshman class this year than last year and its graduate programs for practicing engineers have attracted many advanced students.

Active recruiting efforts by Assistant Dean John Martinez and the interest shown by young men in this area in Tulane's engineering program are primarily responsible for this fine record according to Dr. Macdonald. He credits also the fact that Tulane still teaches a good basic engineering curriculum giving its graduates the ability to be useful and productive engineers in industry, government and private practice.

Dr. Macdonald says Tulane expects increasing enrollments in engineering over the next several years to meet the increasing demands on the profession made by the growth in population and the increasing public demand for the better environment made possible by engineering technology. Surveys of the engineering profession indicate a shortage of 20,000 to 30,000 properly educated engineers per year in the near future.

To assist the young men who elect engineering as a career, Dr. Macdonald hopes to obtain more scholarship funds and part time student employment from industries, businesses, government agencies and professional practices in this area and throughout the United States. Substantial student aid has been given in the past by alumni and interested friends of the School of Engineering and these are expected to continue and increase. It is reported that contributions to private universities over the nation as a whole are up this year some nine percent, it being realized by the donors that additional funding of private education is essential to the welfare of the nation.

Dr. Frank W. Macdonald received his B.E. in Civil Engineering in 1931 from Tulane University, a B.S. in Public Health from the Massachusetts Institute of Technology in 1937, a M.S. in Civil Engineering from Tulane in 1939 and a Doctor of Public Health from Tulane in 1953.

Prior to assuming his duties as Acting Dean he was Professor of Civil Engineering and Public Health and Chairman of the Department of Environmental Health at Tulane University. He has had a distinguished career in the field of public health engineering, having served as a consultant to the World Health Organization and lectured for them on public health matters throughout South America, and is the author of several publications in this area of research.

Dr. Macdonald is most active in engineering affairs in the State, having been a member of the Board and Past President of the Louisiana Engineering Society and Past Executive Secretary of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors for twenty years.

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ENGINEWS

From left to right, Mrs. Irma McKee, outgoing President of the Ladies Auxiliary, presents the charter to Mrs. Beryl Moncla, the newly elected President. Other incoming officers standing from left to right are: Mrs. Willie Brock, President Elect; Mrs. Ruth Thigpen, Vice President; Mrs. Louise Bogard, Recording Secretary; Mrs. Opal Ray, Corresponding Secretary, and Mrs. Julia Lee Stubbs, Treasurer.

Dr. J. J. Thigpen presents gavel to Mr. E. E. "Buddy" Moncla, incoming President of the Monroe Chapter. Other incoming officers are standing from left to right, A. Webb Hart, Secretary-Treasurer; Charles H. Edwards, Second Vice President, and Charles F. Stubbs, First Vice President.

IN MEMORIAM

SIDNEY E. TROUARD

Died May 27, 1972

Sidney E. Trouard, a life member of the Society and an active member since 1928, died on May 27 of this year. An electrical engineering graduate of the University of Dayton (Ohio), he spent his entire professional career at New Orleans Public Service from which he retired in 1970.

He was a pioneer and an internationally recognized authority on corrosion prevention, especially through means of cathodic protection. He wrote numerous articles and sections of handbooks on this subject. He also presented learned papers to engineering and scientific groups, advancing ideas that later became well accepted practices in this specialized branch of electrical engineering.

A registered professional engineer in Louisiana, he received recognition for his work by being made a Fellow in the American Institute of Electrical Engineers.

Sid was active in the National Association of Corrosion Engineers and the American Gas Association, which awarded him both its "Award of Merit" and its coveted "Distribution Achievement Award."

He enjoyed a long and happy marriage with his wife, the former Marie Prieur. Together they raised a fine family of six children and were fortunate in having several grandchildren.

Sid was known to his friends for his helpful attitude, his generosity and his ready wit and humorous repartee.

We recognize Sid's excellent contributions to the engineering profession and to society, his fine record as a good father and a good citizen. We will miss him from our ranks.

PROFESSIONAL ENGINEERS GRANTED REGISTRATION

JUNE 13, 1972

By the Louisiana State Board of Registration for Professional Engineers and Land Surveyors

ADAMS, CHARLES R.
Miami, Fla.
Civil

ALLEN, JERRY W.
Fort Worth, Tex.
Civil

ALLEN, WILLIAM H.
New Orleans, La.
Mechanical and Industrial

BARNES, WILLIAM L.
Lakewood, Col.
Mechanical

BEAMAN, RICHARD E.
Indianapolis, Ind.
Civil

BLAIN, III, HUGH M.
New Orleans, La.
Civil

BLEICHNER, BARRY J.
New Orleans, La.
Civil

BREAUX, JR., CHARLES Z.
Plaquemine, La.
Civil

BROWN, GORDON L.
Morgan City, La.
Petroleum

BROWN, JOHN S.
New Orleans, La.
Petroleum

BUTTREY, SR., JOHN W.
Slidell, La.
Civil

CAMORS, FELIX B.
Ruston, La.
Civil

CANO, ADOLFO
Lake Charles, La.
Civil

CHEROUNY, JAMES H.
Jericho, N.Y.
Mechanical

CONNELL, FRANCIS J.
Binghamton, N.Y.
Civil

CRITTENDEN, JERRY L.
Pineville, La.
Civil

DAHLBERG, ROBIN L.
New Orleans, La.
Chemical

DICKERSON, KENNETH B.
Bunkie, La.
Electrical

DRURY, CHARLES T.
Metairie, La.
Electrical

EMMETT, JOHN S.
Metairie, La.
Electrical

ESMAIL, OMAR J.
University of Alaska
College, Ak.
Petroleum

ESNARD, JR., JOHN B.
Baton Rouge, La.
Civil

EVERETT, REX M.
New Orleans, La.
Petroleum

FALEY, DOUGLAS L.
Shreveport, La.
Mechanical

FREITAG, EDWARD R.
New Orleans, La.
Electrical

FROHN, DAVID R.
Metairie, La.
Mechanical

GANZ, HANS A.
Houston, Tex.
Civil

GAUTHIER, STEVEN P.
Cottonport, La.
Electrical

GLENN, CHARLES G.
Tucker, Ga.
Civil

GOOD, EDDIE P.
Lafayette, La.
Petroleum

GOULAS, RAYMOND A.
Franklin, La.
Electrical

HARLAN, LOUIS E.
Dallas, Tex.
Petroleum

HASSANI, JAY J.
Balitmore, Md.
Civil

HEBERT, JR., JOHN O.
Lake Charles, La.
Mechanical

HICKMAN, RONALD S.
La Mirada, Cal.
Mechanical

HINSON, TONY D.
Charleston, S.C.
Civil

HOFFMAN, WARREN L.
Shreveport, La.
Industrial

HORNE, EARL W.
Metairie, La.
Mechanical

HUBBARD, ROBERT A.
Newport Beach, Cal.
Civil

JOHNSON, JR., DON B.
Houston, Tex.
Mechanical

KECK, III, WILLIAM H.
New Orleans, La.
Civil

KOMAREK, ANTON A.
Kenner, La.
Chemical

LAM, HENRY W.
Baton Rouge, La.
Chemical

LANG, JOSEPH H.
Metairie, La.
Electrical

LeBLANC, JAMES L.
Lafayette, La.
Petroleum

LEMANN, DAVID K.
Donaldsonville, La.
Agricultural

LeRAY, HAROLD
Lafayette, La.
Electrical

LEVINE, EDWARD
New Orleans, La.
Civil

LINDSEY, EARL H.
Metairie, La.
Electrical

LYNCH, JR., JAMES F.
Houston, Tex.
Civil

McCAUGHAN, GREGORY B.
San Francisco, Cal.
Civil

McCLENDON, ROBERT S.
Arcadia, La.
Mechanical

McGARRY, JR., MARTIN W.
San Marino, Cal.
Petroleum

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Minden, La.
Civil

McINTEER, MICHAEL J.
Metairie, La.
Mechanical

MEAUX, EDWARD P.
Lake Charles, La.
Chemical

MELTON, JOE T.
Oakdale, La.
Mechanical

MILLARD, CHARLES F.
Towson, Md.
Civil

MILLS, CURTIS R.
Lafayette, La.
Petroleum

MOLNAR, EDWARD T.
Baton Rouge, La.
Civil

MOORE, III, TERRY L.
Hampton, Va.
Civil

MOREJON, RENATO R.
Miami, Fla.
Civil

NICHOLS, RANDALL K.
Carpentersville, Ill.
Chemical

NORWOOD, TROY C.
Metairie, La.
Petroleum

O'CONNELL, JOSEPH E.
Baton Rouge, La.
Chemical

OLIVER, JR., CHARLES R.
New Orleans, La.
Civil

OLIVER, JR., JOHN E.
New Orleans, La.
Petroleum

O'NEAL, HARDY L.
Sulphur, La.
Mechanical

PATTERSON, JR., ERNEST O.
Houston, Tex.
Petroleum

PATTERSON, RANDY B.
Buras, La.
Mechanical and Electrical

POVINELLI, THEODORE J.
Shreveport, La.
Mechanical

PRANTER, JAMES A.
Baton Rouge, La.
Chemical

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Baton Rouge, La.
Civil

REGOJO, ANTONIO E.
Guaynabo, P.R.
Civil

REIFF, CARYL M.
Slidell, La.
Civil

REYNOLDS, JR., THOMAS L.
McComb, Miss.
Civil

RIEWE, TILLMAN A.
Dallas, Tex.
Civil

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Lafayette, La.
Petroleum

RUPERT, PAUL H.
Lafayette, La.
Petroleum

RUPP, WILLIAM R.
New Orleans, La.
Electrical

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Lake Charles, La.
Chemical

SCHEXNAYDER, JOSEPH A.
Norco, La.
Mechanical

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Overland Park, Kan.
Civil

SCHNEIDER, PETER W.
Baton Rouge, La.
Civil

SHUBERT, HARRY A.
Slidell, La.
Electrical

SIMMS, HAROLD A.
Lafayette, La.
Chemical

SIMPSON, JOHN M.
Houston, Tex.
Petroleum

SKELTON, JOSEPH
Berkeley Heights, N.J.
Civil

SLUSHER, ROBERT L.
Concord, Tenn.
Mechanical

SMITH, JAMES, L.
Panama City, Fla.
Electrical

SMITH, OCTAVIUS C.
New Orleans, La.
Civil

STONE, JOHN M.
Baton Rouge, La.
Chemical

WALTERS, JR., CHARLES R.
New Orleans, La.
Civil

WELCH, ROBERT CHARLES W.
Baton Rouge, La.
Chemical

WEST, JR., HERBERT M.
Shalimar, Fla.
Civil

WEST, ROYAL F.
Huntington Beach, Cal.
Civil

WHATLEY, THOMAS L.
Sulphur, La.
Mechanical

WHITCOMB, NORMAN K.
Natick, Mass.
Civil

WHITLOW, GILBERT M.
Houston, Tex.
Mechanical

WILLIAMS, JAMES E.
Baton Rouge, La.
Civil

WU, CHING-HAI
New York, N.Y.
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ZERETZKE, FREDERICK J.
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Metairie, La. 70001

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New Orleans, La. 70114

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P. O. Box 60267
New Orleans, La. 70160

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WAYNE M. LaBICHE
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New Orleans, La. 70126

PAUL S. MAYEAUX
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Metairie, La. 70002

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New Orleans, La. 70114

BRENTON T. MORSE, JR., P.E.
6309 Cartier Drive
New Orleans, La. 70122

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Metairie, La. 70003

JOHN EMILE POTTHARST, III
861 Carondelet St.
New Orleans, La. 70130

RICHARD O. POWELL, P.E.
1515 S. Carrollton Ave.
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FRANK J. STOUDER, P.E.
10101 Gail Ct.
New Orleans, La. 70123

J. PAUL TOBIN, P.E.
356 Pine Street
New Orleans, La. 70118

ROBERT IRVINE ZIMMERMAN, P.E.
2500 Whitney Place Apt. 2-315
Metairie, La. 70002

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Shreveport, La. 71101

JOHN R. BOWMAN, P.E.
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Springhill, La. 71075

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3966 Lakeshore Drive
Shreveport, La. 71109

THOMAS S. STONE, P.E.
305 Mockingbird Lane
Shreveport, La. 71130

JOHN F. WILKERSON, JR., L.S.
101 W. 78th Street
Shreveport, La. 71106

BOARD OF DIRECTORS MEETING

June 21, 1972

Ramada Inn **Baton Rouge, La.**

President Hogue called the meeting to order with the following members present: Alvin Badeaux, P.E.; Hoyt W. Brown, Jr., P.E.; Marshall B. (Brook) Ewing, P.E.; Charles W. Hair, Jr., P.E.; Frank M. Heroy, Jr., P.E.; T. J. Hogue, Jr., P.E.; Malcolm Hurstell, P.E.; James S. Janssen, P.E.; James L. Meyer, P.E.; Frank Miller, P.E.; Steve A. Nasca, P.E.; Raymond E. Pillow, P.E.; Herby Pourciau, P.E.; Billy R. Rentrop, P.E.; Lamon L. Moody, Jr., P.E. and Richard M. See, P.E.

Guests were Gerald A. Simmons and Joseph L. Keogh.

The minutes of the May 19th meeting were approved as forwarded to the board with the following corrections: (1) Page 2, the last line of resolution No. 1 is deleted and the following inserted: "The resolution was received for discussion."

(2) The April 14, 1972 minutes be corrected to show the P.E.I. report was received.

Financial Report — The financial report was given by Mr. Hurstell, Secretary-Treasurer, for the month of May, 1972. Receipts as of May 30, 1972 were $85,808.50 with budgeted receipts of $90,480.00 for the same period. Total expenses year to date for the same period were $82,879.21 with budgeted expenses of $86,531.48.

Motion by Mr. Meyer, seconded by Mr. Hoyt Brown, "that the financial report be accepted as presented." Motion carried.

Section Reports

Professional Engineers in Industry—Chairman James Janssen presented the following report:

The activities of the PEI Section since the last Board meeting have centered around gathering support for the legislative package, most of which was originally proposed by the PEI Section. This consisted of phone calls, letters, and of the Chairman testifying at the committee hearing.

The PEI Section intends to cooperate with the Board in its formation of the new practice section for Professional Engineers in Construction. It offers its assistance to the Board in any respect in which it can be helpful.

James Janssen, incumbent chairman, and George Heller, Chairman-elect of the LES-PEI Section, are planning to attend the NSPE Annual Meeting in Denver in July.

Professional Engineers in Private Practice—Chairman James Meyer asked that resolution No. 1 of the last board meeting be called from the table. The resolution directs the P.E.P.P. Board of Governors of N.S.P.E. to rescind Section 7C of Rules of Government and Operation adopted in January 1972.

Motion by Mr. Meyer, seconded by Mr. Badeaux, "that the Resolution be adopted." Motion carried.

L.E.S. Legislative Report—Mr. Moody, acting chairman of the legislative committee, reported that the committee had been quite active in pursuing the L.E.S. legislative package. To date, the committee had been successful in defeating the bills that would have consolidated the State Board of Registration with forty other boards, the bill to raise registration fees to $100.00, amending the architects-engineers selection bill to make it more acceptable to engineers and active on a number of other issues affecting engineers.

The L.E.S. package had been reported favorably from the House Commerce Committee with the exception of two bills. The bill to establish a Code of Ethics for Engineers was defeated on the House floor. These remaining bills await action by the House of Representatives. All of the surveyor bills await action by the House.

Mr. Keogh, L.E.S. attorney, reviewed action to date and encouraged each board member to meet and talk to their representatives in support of the program.

Motion by Mr. Moody, seconded by Mr. See, "that a letter be written to all registered professional engineers explaining the legislative program and situation now existing."

Substitute motion by Mr. Brown, seconded by Mr. Nasca, "that the letter be sent to the engineers and land surveyors registered by the State of Louisiana setting forth the current position of the L.E.S. legislative program and request that each one respond to Representative Lottinger on this package."

Substitute motion by Mr. Janssen, seconded by Mr. Pillow, "that the letter drafted by Mr. Millican be used but that copies to the members of the House be omitted."

The vote occurred on the second substitute. Motion carried.

The vote was then taken on the first substitute motion as amended. Motion carried.

Motion by Mr. Janssen, "that House Bill 981 be omitted from the package." Motion died for lack of a second.

Motion by Mr. Hurstell, seconded by Mr. Hoyt Brown, "that the letter drafted giving the background of the entire legislative action to date be used as a news story in the

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METAIRIE SHREVEPORT

Louisiana Engineer." 7 for and 5 against. The chair ruled the motion failed for lack of ⅔ majority. The rule of the chair was questioned but the Board failed to overrule the decision.

Resolution Adoption Procedure — Motion by Mr. Meyer, seconded by Mr. Ewing, "that the policy on Adoption of Resolutions, reports of committees and functional sections be as follows:

1. Reports from any Committee or Functional Section of the Society may be submitted to any proper meeting of the Board of Direction.
2. No Committee or Functional Section reports may be published by the Society unless and until such reports and recommended motions or resolutions are first submitted to the Society Board of Direction and appropriate action as defined herein has been adopted.
3. Reports given verbally may be received, but shall not be acted upon unless there is an emergency which requires prompt consideration and there is unanimous consent of all Board members present to consider such action.
4. Committee progress reports may only be received and no action taken. Publication of such reports shall not be permitted, except when such publication is made for the purpose of soliciting comments from the Society Membership. When Progress Reports are published, appropriate reader solicitation forms shall be submitted identifying the purpose of the publication.
5. Final Committee reports shall be submitted in written form and may be submitted to the Board for acceptance (indicating complete approval) or receipt (for file purposes). The Board may **accept** a committee report at any regular meeting if said report has been made available to the Board members not less than ten days in advance, with prior notification of pending Board approval. Otherwise the final report shall only be **received** at a meeting of the Board, with approval action delayed until a subsequent meeting. Publication may be made of the Final Report without comment, when **accepted** by the Board. Publication of a Final Report, when **received,** shall only be made when preceded by appropriate comments limiting the report accordingly.
6. Reports from Functional Sections or Committees which provide for an expression of the Society's view shall be submitted to each Board member at least ten days prior to the Board meeting with the notice announcing the date of the meeting in order for action to be taken on such motions or resolutions. This procedure may be suspended by the motion or resolution being presented at one Board meeting for action to be taken at a subsequent meeting, or by unanimous consent of all Board members present. Approval of two-thirds of the Board members present and voting is required to adopt such motions.
7. A committee report shall be considered a Society Policy Statement only when the committee is given the specific task of preparing such a statement. The statement must represent the opinion of the Board of Direction and be accepted as such by the Board after appropriate review. Action by the Board on a proposed Policy Statement shall require consideration at a subsequent meeting. Publication of a Policy Statement shall not be made until final action is completed.
8. Resolutions offered by Board members or by other than committee or Section sponsorship and which would reflect the Society's view shall first be submitted in writing to each Board member with the notice of meeting time or at a previous Board meeting in order to receive consideration for adoption, unless there is unanimous consent by the Board members present to suspend the rules for such consideration.

Motion carried.

Ad Hoc Committee Report on Code of Ethics—Mr. Janssen presented the report of the L.E.S. Ad Hoc Committee appointed to study the Society's Code of Ethics, copies of which were distributed to Board members. Mr. Hoyt Brown moved and Mr. Badeaux seconded the motion "that the report of the Committee be accepted where not contrary to existing law."

Mr. Meyer offered an amendment to the motion, which was accepted by Mr. Brown and Mr. Badeaux, "that the report be accepted with instructions to the L.E.S. Ethics Committee to incorporate this report into the L.E.S. Code of Ethics."

Mr. Moody moved and Mr. Janssen seconded a motion to table this report. (Two proposed bills are now being considered in the Legislature and these should be studied in light of national bills.) Motion to table was defeated.

The original motion as amended was then voted upon and approved.

Mr. Moody requested a roll call vote, which was as follows:

Nasca—for	Badeaux—for	Ewing—for
Janssen—for	Meyer—for	Hurstell—for
Pillow—for	H. Brown—for	Moody—against

Mr. Hoyt Brown moved and Mr. Ewing seconded a motion "that the Board recognize the important work of the committee and that they be congratulated on their excellent work." Motion passed unanimously.

Mr. Hoyt Brown suggested that a letter be sent to N.S.P.E. informing them of our Board action and when the final Code of Ethics is promulgated that they will so be informed.

Insurance Consultant Report—Mr. Hogue introduced representatives of Gilsbar, insurance consultants, to review the possibility of instituting a group auto insurance program for L.E.S. members.

The representatives suggested a poll of the membership to establish the interest of the members.

Motion by Mr. Hoyt Brown, seconded by Mr. Moody, "that L.E.S. accept the Gilsbar proposal and allow Gilsbar, Inc., to mail a survey to L.E.S. members at its expense to determine the interest of L.E.S. members." Motion carried.

The next meeting of the Board will be held Saturday, July 29, 1972, in New Orleans, La.

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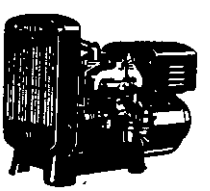

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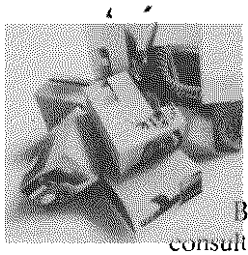

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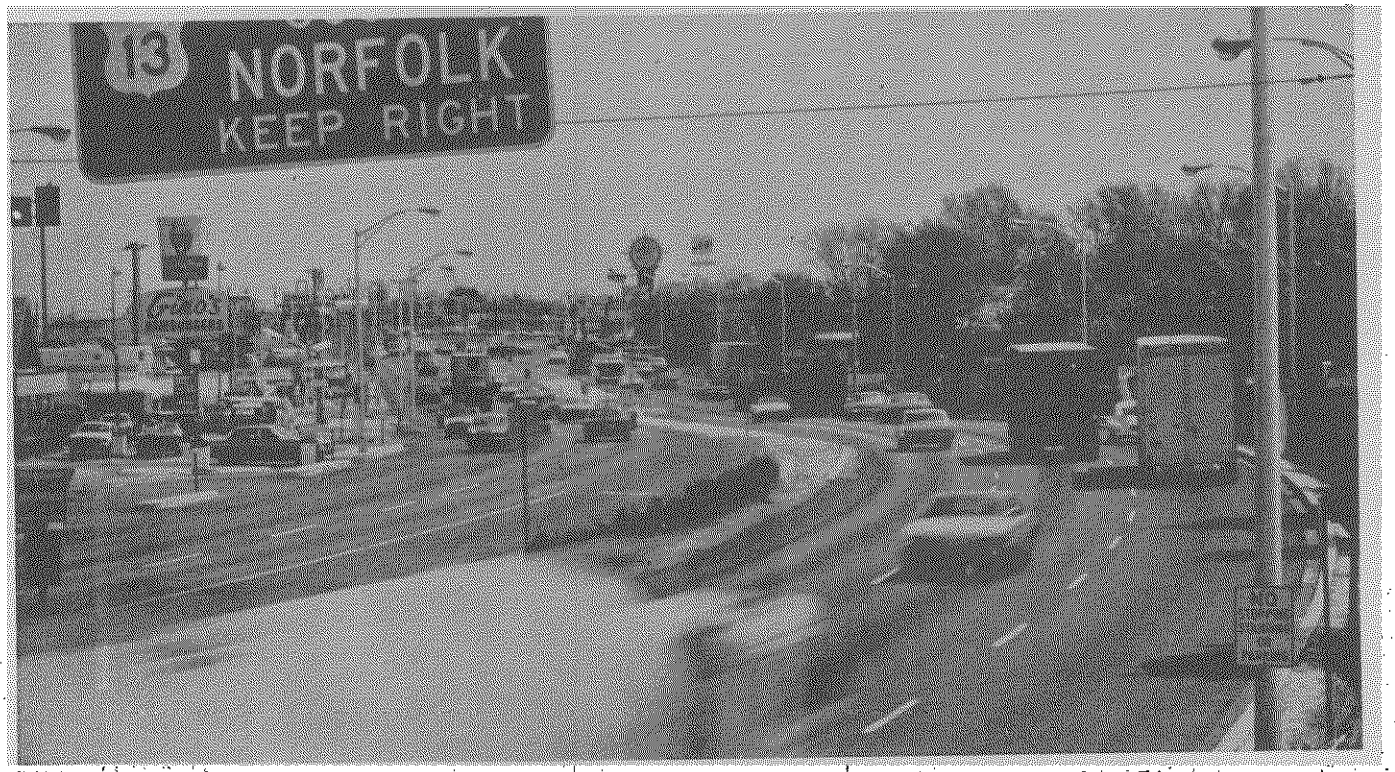

Full-Depth® T_A Deep-Strength® Asphalt rehabilitation of Dover Bypass cuts costs...keeps heavy traffic moving in First State.

Busy U.S. 13 bypasses the capital city of Dover, Delaware, and carries heavy traffic to and from Dover Air Force Base, a shopping center, industrial facilities, and in summer, down-state resort areas. Built with portland cement concrete in 1951, the four-lane bypass badly needed repair and widening. A modernization plan prepared by the Delaware Department of Highways and Transportation called for repairing the old pavement and adding a new lane on each side with portland cement. These repairs were begun, but required blocking off lanes for 72 hours for curing. A change order, calling for repairs with Asphalt concrete, allowed repaired sections to be opened, usually within 2 hours.

Full-Depth Asphalt construction for the new lanes also was approved in the change order. The Asphalt concrete base on prepared subgrade was placed in one Deep-Lift®, varying from 8 to 12 inches. Later, a 3-inch Asphalt concrete surface was placed across the full 6-lane width. During summer week-ends, traffic was permitted on the new lane base. Traffic kept moving with minimum interruption throughout these improvements. And an estimated 25% was saved in over-all cost with Asphalt construction for this project.

THE DOVER BYPASS PROJECT

TYPE: Four-lane highway widened to six lanes with Full-Depth Asphalt construction, with 3″ Asphalt concrete overlay across full 6-lane width. Width of driving lanes, 12′.
LENGTH OF PROJECT: Four miles.
TERRAIN: Flat.
CLIMATE: Mild.
TRAFFIC: 23,000 to 37,000 ADT (1970)
ROADWAY: Subgrade: Soils range A4-A24, Design CBR-8.
Base: Variable 8-12″ Asphalt concrete.
Surface: 3″ Asphalt concrete, placed in lifts of 1¾″ and 1¼″.
ASPHALT: AC 2000 for both base and surface.
DRAINAGE: Runoff controlled in built-up area with curb, gutters and catch basins.
COMPACTION: Subgrade: Firm, unyielding surface.
Asphalt Concrete Base: 90% laboratory density.

The Dover Bypass project was constructed under the supervision of the Delaware Department of Highways and Transportation. By specifying Full-Depth (T_A) Deep-Strength Asphalt pavement for this highway improvement, Delaware engineers served the best interests of taxpayers and motorists alike. While saving tax dollars and construction time and permitting uninterrupted flow of traffic, it also assures smooth, safe riding for continuing comfort and serviceability with a minimum of maintenance.

For more information on this and other projects . . . and on all the advantages of Full-Depth Asphalt pavement, please contact the Institute office serving your area . . . or write The Asphalt Institute, 406 John Hancock Building, New Orleans, La. 70130.

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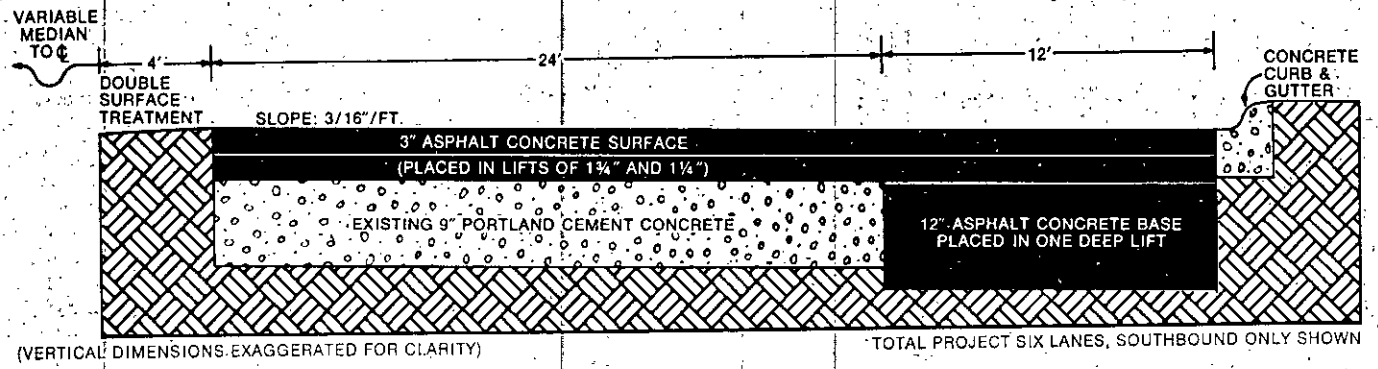
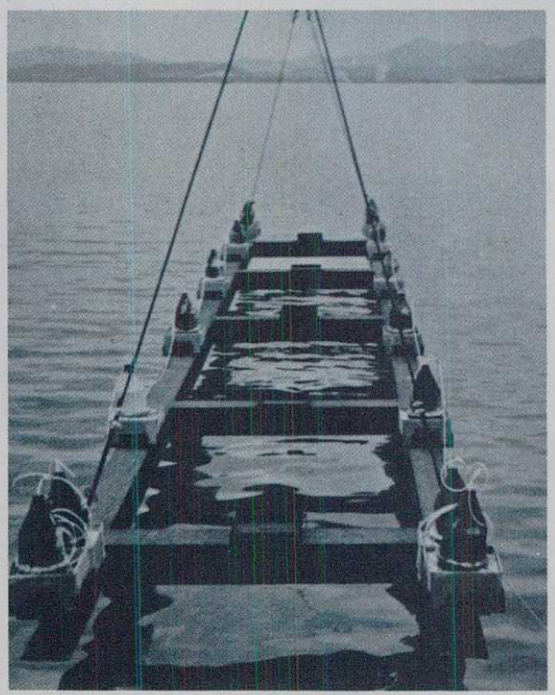


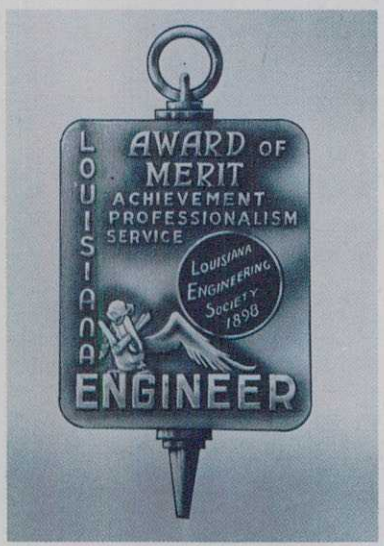
(VERTICAL DIMENSIONS EXAGGERATED FOR CLARITY)

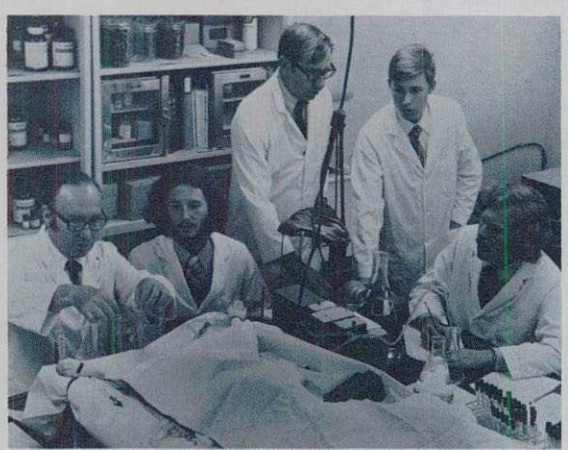
TOTAL PROJECT SIX LANES, SOUTHBOUND ONLY SHOWN

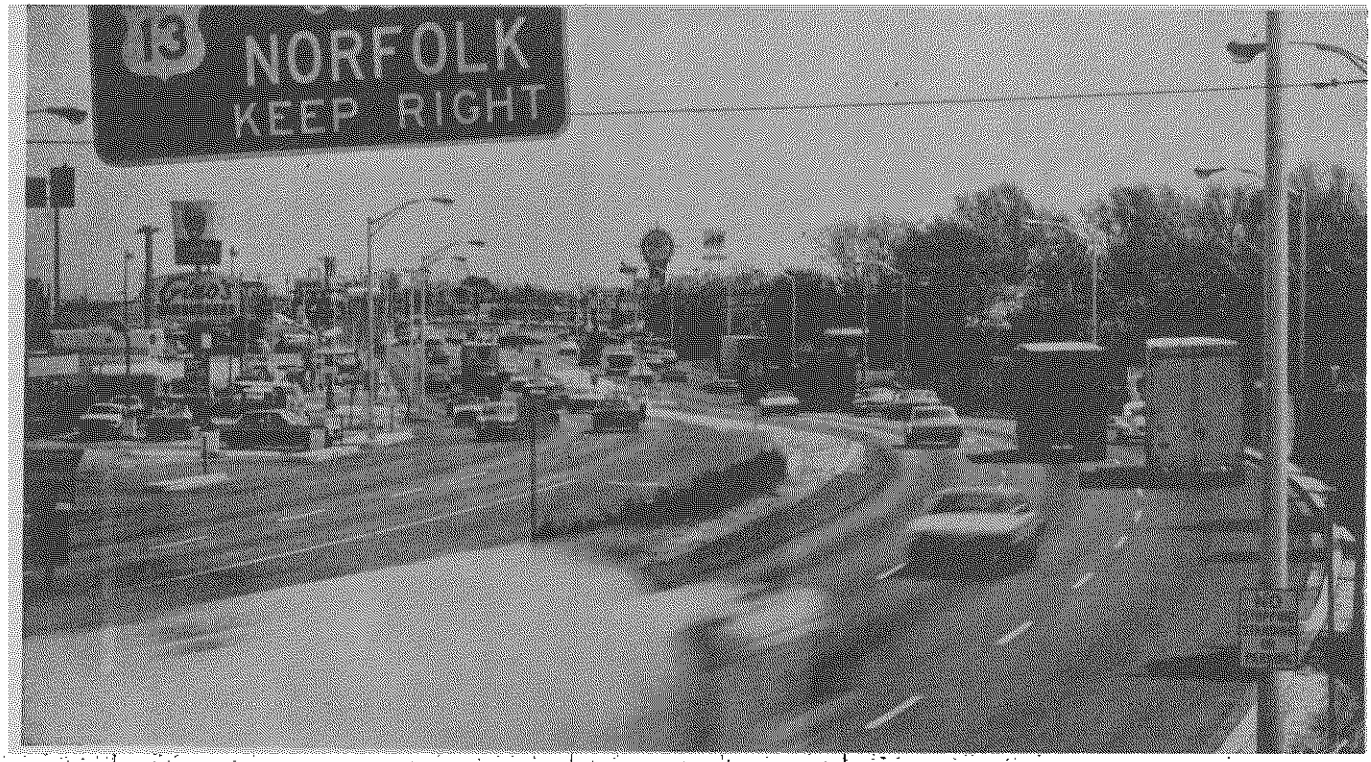
LOUISIANA ENGINEER

October, 1972









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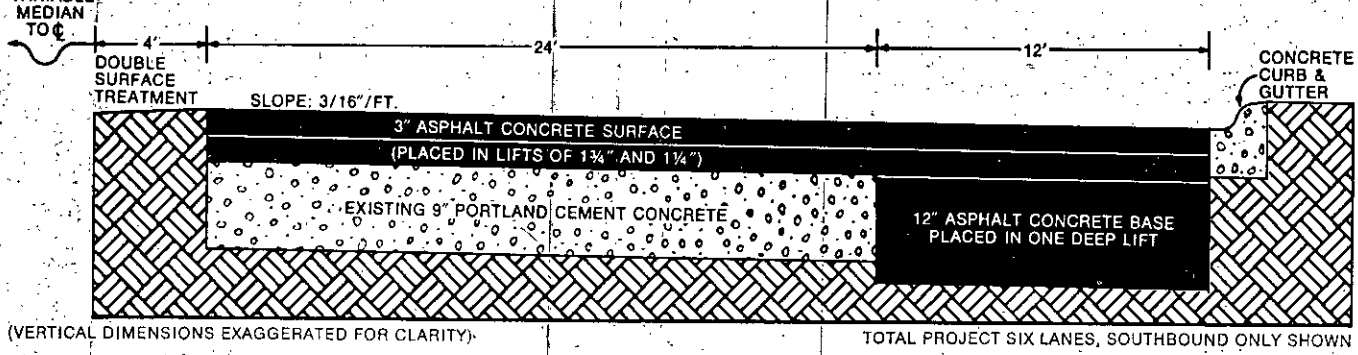

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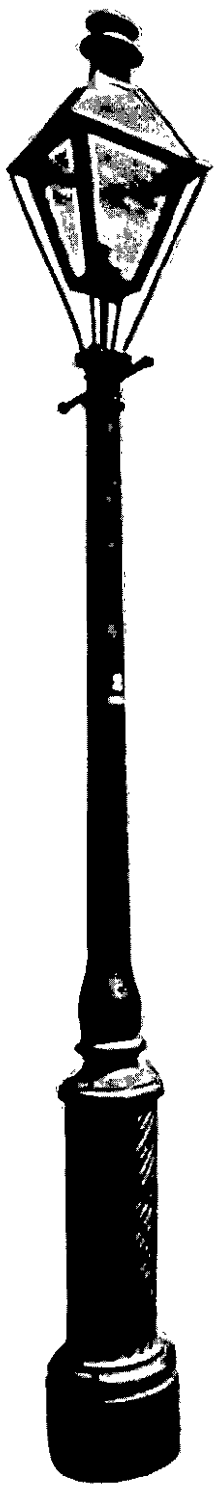
TOTAL PROJECT SIX LANES, SOUTHBOUND ONLY SHOWN

FALL CONFERENCE

National Fire Protection Association

Jung Hotel, New Orleans, La.
November 14-16



The Fall Fire Conference of the National Fire Protection Association will be held in New Orleans at the Jung Hotel, November 14-16.

The structuring of the conference this year is built around workshop sessions. There are five such sessions, covering such current and future problems as:

1. Fire-Wise — Are All Plastic Foams the Same?
2. Fire Apparatus Design — Tomorrow
3. Features of the New NFPA No. 58
4. Mobile Home Fire Safety
5. Hospital Fire Safety Organization

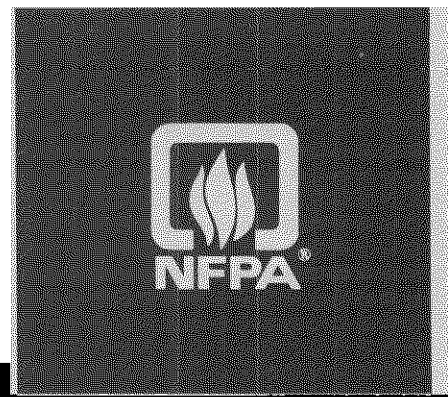
The purpose of the workshop sessions is to gain involvement of the audience and to get a sharing of views. It is **not** planned to transcribe or tape any of the workshop sessions so that the informal atmosphere can be maintained and everyone will be free to express his views without fear of being quoted.

Feature talks are also scheduled for the conference, with special emphasis being placed on fire safety for children with four presentations; one by Dr. Anne W. Phillips of the National Commission of Fire Prevention and Control; one by Irwin A. Benjamin of the Fire Research Section of the Building Research Division of the National Bureau of Standards; another by Acting Chief Joseph E. Clark of the Fire Technology Division of the Bureau; and the last by Dr. Duane Larson, Chief Surgeon of the Shriners Burns Institute of the University of Texas Medical Branch.

The interrelationship between building codes and fire standards will be the topic for Donald W. Belles, Fire Protection Consultant of Hendersonville, Tennessee. Two leading experts on fire safety in the petro-chemical industry will talk to this subject: William H. Doyle of the Factory Insurance Association and George E. Weldon of the Factory Mutual Research Corporation.

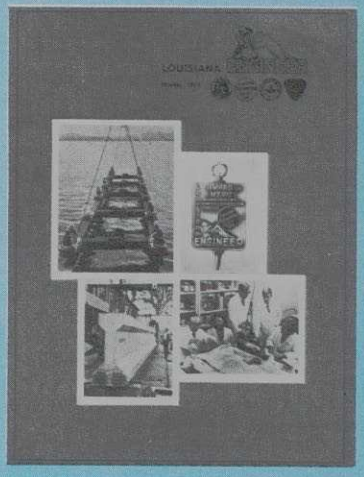
At the luncheon on Wednesday, Nov. 15, participants will be brought up-to-date on the activities of the National Commission on Fire Prevention and Control with its chairman, Mr. Richard E. Bland, reporting. The Commission has had a series of hearings to review the problem on a national scale, and it will be reporting to the President of the United States in 1973 with its formal conclusions.

The final general session, Nov. 16, has talks by Miles Woodworth of the NFPA Staff on "Flammable and Combustible Liquid Classifications"; by George A. Hale of the Marine Inspection Engineers Inc. on "Gas Freeing of Tank Vessels"; by William Lawton of the Grinnell Corporation on "The Latest in Sprinkler Design"; a paper by M. H. (Jim) Estepp on "Townhouse/Apartment Complex Fire Safety"; and the conference winds up with a presentation on "Standardization of Emergency Signaling for Life Safety," by W. Y. Humphreys of the Autocall Division of the Federal Sign and Signaling Corporation.



In addition, participants will hear from the Chairman of the Board of the NFPA, Elmer O. Mattocks, assessing current problems and NFPA's programs to control them. President Charles S. Morgan will report on plans for the 1973 Fall Conference scheduled for Geneva, Switzerland, October 15-17.

Plans have been made for a ladies program. Attendance is open to all interested persons, and preregistration package price for all events is $29.50.



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NOTICE

EXAMINATION IN FUNDAMENTAL ENGINEERING SUBJECTS TO BE OFFERED

Date of Examination:

December 9, 1972

Deadline for qualified persons:

November 9, 1972

On the above date, the Louisiana State Board of Registration for Professional Engineers and Land Surveyors will offer to graduates of baccalaureate engineering curricula and senior engineering students, the opportunity to take the current uniform examination in Fundamental Engineering Subjects prepared by the National Council of Engineering Examiners. This Examination is being given simultaneously by the Registration Boards of most of the states and territories of the United States. A passing grade in this examination will constitute a required step toward registration in Louisiana and will also be accepted as such by most of the other Registration Boards in the United States.

The examination is divided into two four-hour sessions. The morning session of the examination begins at 8:00 a.m. and will consist of 160 multiple-choice questions in the subjects listed below:

Basic Mathematics, Nucleonics & Wave Phenomena, Chemistry, Statics, Dynamics, Electrical Theory, Materials Science, Mechanics of Materials, Fluid Mechanics, Thermodynamics and Economic Analysis.

The afternoon session of the examination will contain 21 problems. There will be three problems in each of the following subject areas:

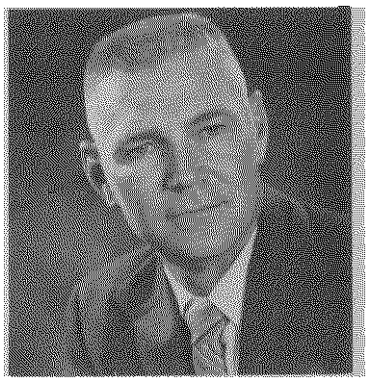
Economic Analysis, Dynamics, Mechanics of Materials, Thermodynamics, Electrical Theory, Statics, and Fluid Mechanics.

One is expected to work five of the twenty-one problems presented. Not more than one problem may be worked in a given subject area.

Slide rules, textbooks, reference books, etc. may be used. The use of personal notes or published solutions of questions from other examinations will not be permitted. Testbooks will be provided for the morning session. Applicants are expected to bring sufficient 8½" x 11" white paper for their use in the afternoon.

All persons other than students who desire to take the examination must submit appropriate applications at least thirty days prior to the examination date to the Louisiana State Board of Registration for Professional Engineers and Land Surveyors, 1055 St. Charles Avenue, Suite 415, New Orleans, Louisiana 70130.

A fee of $10.00 must be paid at the time the application is submitted. Applicants who pass the examination will receive a credit for this amount toward payment of the registration fee of $25.00 when they apply for registration as a Professional Engineer in Louisiana.



PRESIDENTIAL PRIVILEGE

Hoyt W. Brown, Jr.
President
Louisiana Engineering Society

We have just completed a well attended and, hopefully, successful statewide Officers Training and Planning Conference. For two days we listened and contributed our thoughts on how to best accomplish our L.E.S. goals for the coming year. Realizing that everything worthwhile cannot always be accomplished yesterday, we are attempting to concentrate our efforts on those tasks that are most urgent and will eventually produce the most good.

Some of these tasks are:

1. Implementation of the "Engineering Education in Louisiana Study Report and Recommendations."
2. Gain acceptance for the L.E.S. Salary Study Report.
3. Accomplish desirable revisions to the state law for Registration of Professional Engineers and Land Surveyors.
4. Communications.

The last of these is not the least, for if we can communicate with each other and the public, we will easily accomplish our other goals.

How do we expect to do this?

First of all, we have committed ourselves to securing competent and professional communications guidance. We, as Engineers, have not been famous for our ability to project our ideas to our peers or gain acceptance of these ideas with the public, while enhancing our image or our pay checks.

We hope to improve our communication tools such as the "Louisiana Engineer" and widen its readership (not the same as circulation). We hope to show our peers and the public that our ideas are good and are for their well-being.

Our Committees and Local Chapters are other tools. We must use our Committees to seek our tasks, to bring challenges to us, to stimulate interest by accomplishment of the tasks and meeting the challenges.

Each standing Committee Chairman has been asked for a recommendation regarding the future of his Committee. If he recommends its continuance

—what are his immediate and long range goals—how does he intend to accomplish these goals—what is the cost/benefit analysis of these goals?

A Task Force or Ad-Hoc Committees will be assigned specific tasks of a more immediate or narrow nature, and after completion will be dissolved.

If a Committee no longer serves a useful purpose—let's dissolve it and assign its members to a more useful and invigorating task.

A good part of any communications effort is the timing—otherwise it may waste effort and money. A good example was the excellent article on the Engineering Management Program in the August issue. It was too late—classes had already started by the time you received the program of courses available. A very important effort is in jeopardy because of this tardiness.

Another example—we did not give the deserved attention to our well-conceived Legislative Program until too late (many of us did not read our mail), and this delayed our approach to the Legislators until the session had begun. Too late!! We HAVE started **now** so we won't be "too late" for the next session. We intend to build "that failure" into a real success. As Mark Twain once said, "A few fly bites can't stop a spirited horse."

We hope you will use your local Chapter meetings as well as the Professional Practice Sections to send your thoughts to us.

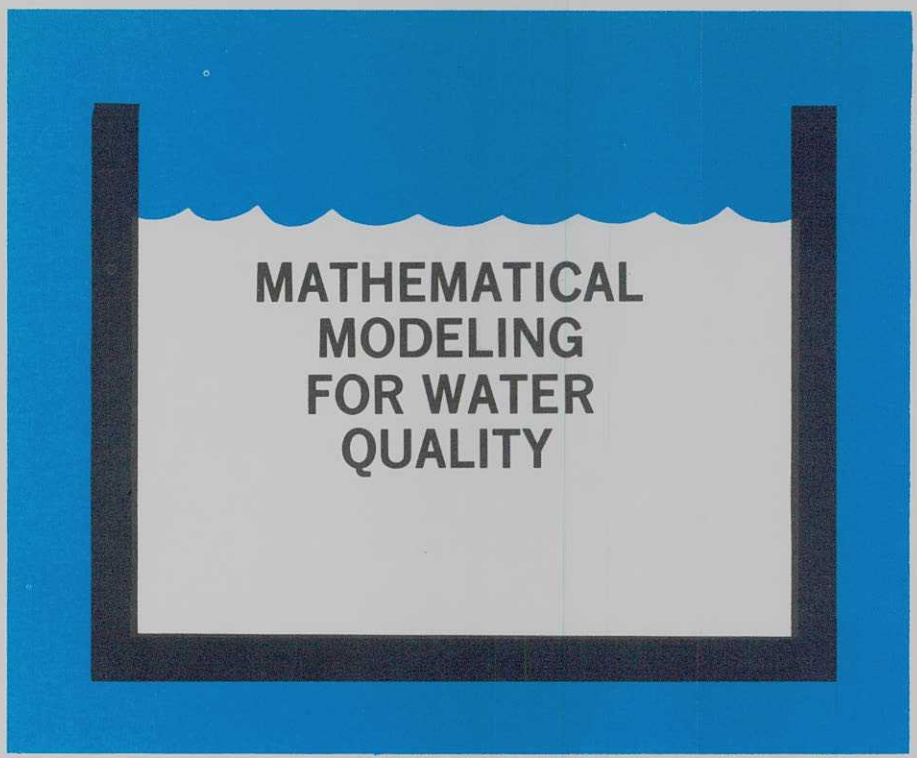
Another quick and easy way to communicate is through "Letters to the President" in this magazine. Answers will be given to all letters by either myself or a responsible person knowledgeable on the subject. A word of caution—your letter may be printed if addressed to "The President" and if you do not request otherwise.

More articles and comments will be coming on the other goals during the year. So let's communicate. Remember—it's a two-way affair. You are the "other way."

"Your example, your words, your ideas, your ideals, can be projected in to the future to live forever in the lives of others."

— Wilferd A. Peterson

WHY NOT?



Adnan Shindala

Professor of Sanitary Engineering
Mississippi State University

(This paper was presented at the LES Annual Meeting in New Orleans.)

Introduction

It is estimated that by the year 2000, the population of the United States will reach 300 million people. It is also estimated that to reach a modest level of this nation's water quality goals will require an expenditure of from two to five billion dollars per year. To achieve these national water quality objectives in a most effective and economical way will require comprehensive planning and a thorough analysis of the complex alternatives for wastewater management. This need for planning was recognized by the federal regulations regarding construction grants for wastewater collection and treatment systems published July 2, 1970, which states that all such projects must be part of a comprehensive plan in order to be eligible for federal aid. To insure the selection of an optimum plan for wastewater management and to have the means of projecting future needs and identifying long-range plans, comprehensive planning must be based on sound mathematical models. Mathematical models can be utilized to analyze past data, assess present conditions and predict future requirements. Only through the use of mathematical modeling can optimal solutions be obtained to meet the set economic and social constraints.

Classification

Mathematical models used in water quality management studies may be classified into (a) water quality or mass distribution models and (b) management models.

Water quality models are usually used to predict the response of a water system to a certain waste input. This type of a model describes the temporal and spatial distribution of any substance, conservative or nonconservative, within a water body. For any combination of waste inputs, a water quality model can predict whether specific water quality goals can be met in the future. Water quality models have often been used to describe the temporal and spatial distribution of the dissolved oxygen in natural water systems and therefore define the assimilative capacity of such waters. In addition to dissolved oxygen, water quality models may be used to model phosphorus, coliform, phytoplankton, all forms of nitrogen, chloride, and metal ions.

Development of a water quality model is usually based on the principle of conservation of mass. The factors which affect the concentration of pollutants in a water system include dispersion, advection, and reactions. Dispersion and advection depend on the hydrodynamic characteristics of the natural water system while the reactions are a function of the pollutant being modeled. The magnitude of any of these factors, therefore, depends on both the water body and the pollutant being modeled.

For dissolved oxygen, for example, sources will include reaeration and oxygen production by photosynthesis while oxygen utilization for the oxidation of carbonaceous and nitrogenous matter, and respiration of aquatic plants, and oxygen demand of bottom deposits constitute the sink factors.

The output from a water quality model usually serves as an input to a management model to determine the most effective solution to the water quality management problem—one which achieves the desired water quality objectives at a minimum cost. Thus it is evident that water quality models serve as the foundation for a comprehensive management and pollution abatement program for the entire basin. The relationship between water quality models and management models as utilized in water quality management studies is shown in Figure 1.

Management Models

Management models utilize the output from the water quality along with specific constraints such as water quality criteria and cost functions, to predict the least cost alternative of waste collection, treatment and disposal in the region. These models basically use optimization techniques to evaluate the alternatives and select the optimum solution that meets the water quality goals. Both linear as well as nonlinear programming techniques may be utilized in solving optimization problems as applied to water quality management.

Management models may be classified into basin management models and regional management models. Basin management models are utilized to determine the optimum waste allocations or as-

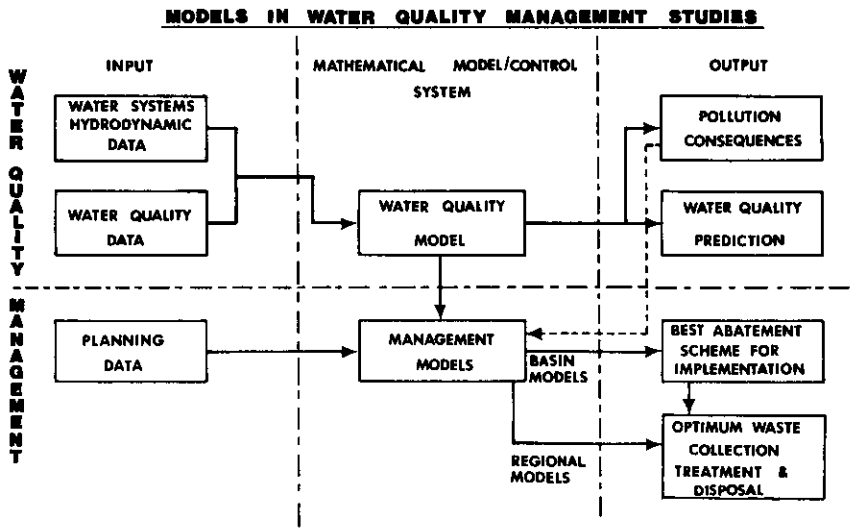


FIGURE I. GENERAL REPRESENTATION OF MODELS USED IN WATER QUALITY MANAGEMENT STUDIES.

sociated treatment levels of all waste sources along a river on an estuary. Regional models, however, are utilized to select the optimum plan for wastewater collection, treatment and disposal within a region. Such optimization techniques will provide information regarding treatment plant capacities and locations, waste sources to be served, location and size of mains, trunk sewers, pumping stations, and force mains. Several management models are available in the literature. Input data to management models generally consist of:

1. Transfer function — quality response due to waste load input. Transfer functions are usually obtained from the water quality models.
2. Water quality criteria—Maximum acceptable concentrations of critical water quality constituents in the water system must be defined.
3. Lower bound on treatment levels—the minimum acceptable degree of treatment as specified by the pollution control agency in the region.
4. Hydrology of the basin.
5. Locations, quantities, and composition of waste effluents generated by the various municipalities and industries in the basin.
6. Cost function—Total cost of treatment as related to the degree of treatment must be defined.

General Modeling Procedure

In general the modeling effort recommended in conducting a complete water quality planning study consist of:

1. Segmentation of the system —The natural water system is usually segmented according to location of waste inputs, tributaries, and the change in the hydrological characteristics of the water body. Each segment must have its own geometric characteristics and reaction coefficients.
2. Evaluation of all existing hydrologic and water quality data—This procedure will identify any discrepancies which may exist in the available data and, therefore, help define the skeleton of the field survey to collect any additional data that may be needed.
3. Development of the water quality model—All available models must be examined for possible adoption to the basin under investigation.
4. Verification of the model—To determine whether the developed model adequately describes the system, the calculated profiles must be compared to the observed profiles for various combinations of waste loads, temperature and fresh water flows. The model is considered verified if it has successfully predicted the water quality for various combinations of inputs.
5. Application of the model—Following verification the model may be used to predict future water qualities in the water system for any waste inputs.
6. Optimization of the water quality management—The output from the water quality model is used along with specific constraints to optimize the wastewater management within the basin.

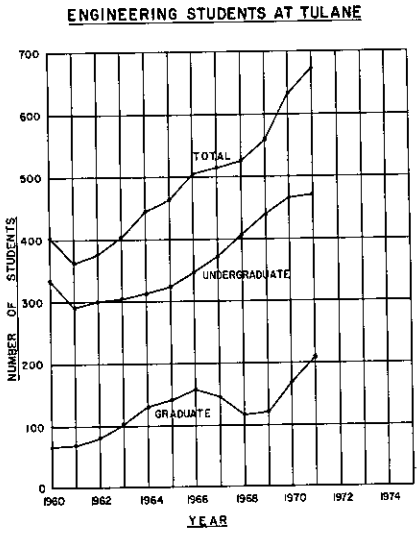
Summary and Conclusions

This paper attempted to define the scope and magnitude of the water quality planning problem and describe the general modeling procedure utilized in selecting the least cost plan which satisfies the needs and desires of a river basin. As the reader may have realized, planning for complete water quality management is a very complex problem, the solution of which requires not only a great expenditure but the expertise in several disciplines such as environmental engineering, computer programming, statistics, operation research, hydrology, and economics. Fortunately, however, the successful application of mathematical modeling to water quality management problems has been greatly simplified by computer computations.

Mathematical models used in water quality management studies may be classified into water quality models and management models. Water quality models are usually used to predict the response of a water system to a certain waste input. Thus for any waste input, the temporal and spatial distribution of any substance, conservative or nonconservative, may be described, therefore, identifying whether water quality goals can be met. The output from a water quality model referred to as the transfer function usually serves as an input to a management model to determine the most effective plan to the water quality management. Thus it is evident that water quality models serve as the heart for any comprehensive water quality management program. Development of water quality models is usually based upon the principle of conservation of mass around an elemental volume.

Management models utilize the output from the water quality models and linear or nonlinear programming techniques to select the least cost wastewater treatment program that meets the desired water quality goals. Management models may be classified into basin wide models and regional models.

ENGINEERING AT TULANE UNIVERSITY



The history of Tulane University dates from 1834 when a group of New Orleans physicians founded the Medical College of Louisiana, the first medical school in the Deep South and Southwest. In 1884, it was organized under its present form of administration and named Tulane University after Paul Tulane, a wealthy merchant in New Orleans who endowed it generously.

The engineering program has been offered at Tulane since 1884. On the undergraduate level the School of Engineering offers the four traditional curricula: chemical, civil, electrical, and mechanical engineering. All are accredited by the Engineers Council for Professional Development. A fifth program, the Engineering Curriculum, has been offered since 1963. This curriculum is designed to provide students with the opportunity of obtaining a basic engineering education that will serve as a foundation for further studies in advanced engineering areas as in medicine, management, and patent law.

Programs leading to the Master of Engineering, Master of Operations Research, and Doctor of Engineering degrees are administered by the Graduate Division of the School of Engineering. Programs are also administered through the Graduate School leading to the Master of Science and Doctor of Philosophy degrees. The graduate programs are offered in chemical, civil, electrical and mechanical engineering.

Undergraduate enrollment in the United States, during the 1971-72 school year, decreased 9 per cent and the freshman enrollment was down 18.3 per cent. The Tulane School of Engineering has been very fortunate in that the enrollment has been holding steady with actually a small increase in the freshman class for the current year. Figure 1 shows the undergraduate, graduate, and total enrollment for the period 1960 through 1971. (Enrollment figures for 1972 are not yet available.) It may be noted that during this period the total enrollment of the School of Engineering was 402 in 1960 and 677 in 1971 or a total increase of approximately 68 percent. While Tulane, like most universities, draws the majority of its students from its own region, the freshman class this year has students from 21 states and 11 foreign countries.

Tulane engineering graduates have been very successful in obtaining employment on graduation. The Engineering Manpower Commission of the Engineers Joint Council reports that at the bachelor's degree level, 9 percent of the class of 1971 were without job offers. Employment opportunities are not as numerous as they were a few years ago but the records of the Tulane School of Engineering show that all undergraduate and graduate degree recipients received at least one engineering job offer. The career plans of undergraduate degree recipients provide an interesting contrast. From the records available on the 1972 class receiving bachelors degrees in engineering at Tulane, the following classifications have been developed:

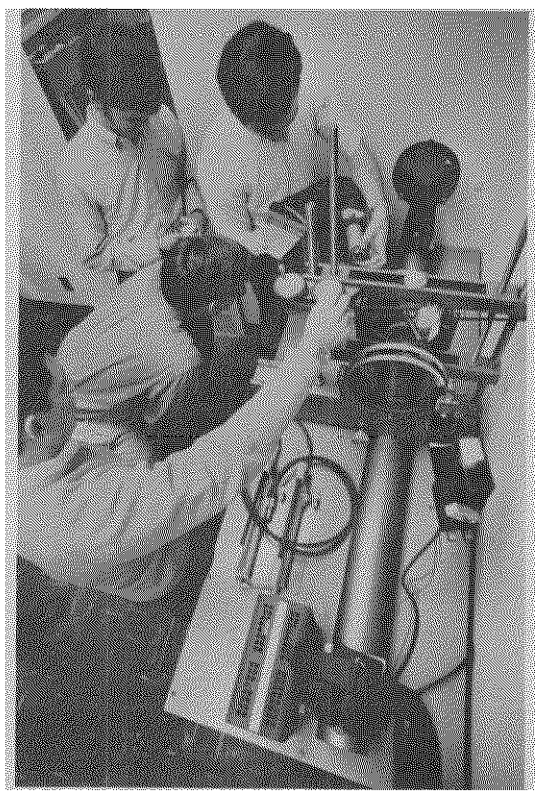
Classification	Percent
Employment in Engineering	32
Military Service	29
Graduate Studies in Engineering	20
Graduate Studies in Business Administration	7
Graduate Studies in Medicine	12

In March 1971 a committee of distinguished engineering educators was appointed by the Louisiana Engineering Society to evaluate the engineering program at Tulane and the other schools of engineering in Louisiana. The following statement was included in the report concerning the faculty of the school:

> "The strength and worth of engineering education at Tulane has developed steadily through the years. This is due in part to the flexibility of the engineering faculty at Tulane. The faculty of this institution also has demonstrated a readiness and ability to keep pace with the national leaders of engineering education in serving the needs of society and the economy in general. The attributes of flexibility and leadership, demonstrated by the engineering faculty and administration at Tulane should be encouraged."

The enrollment in the School of Engineering at Tulane is low compared to most engineering schools. Small classes prevail in most departments providing for close relationship between students and faculty. Instruction at Tulane stresses the practical application of engineering principles in industrial work, government operations and consulting practice. A close liaison is maintained with industry, utilities, construction firms, governmental agencies through visiting lecturer programs, special courses and field trips. More than 90 per cent of the faculty of the Tulane School of Engineering are registered professional engineers and most of the faculty have substantial practical experience through summer employment and serving as consultants to industries, governmental agencies and consulting engineering firms.

Former Dean Lee H. Johnson resigned effective June 30, 1972, and has been honored by being named the W. R. Irby Professor. He will continue teaching in the School of Engineering. A search committee has been actively engaged in considering candidates for the position of Dean of Engineering.



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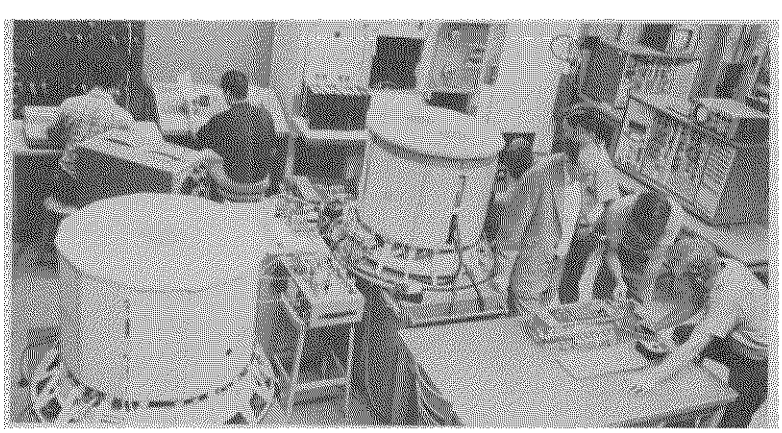

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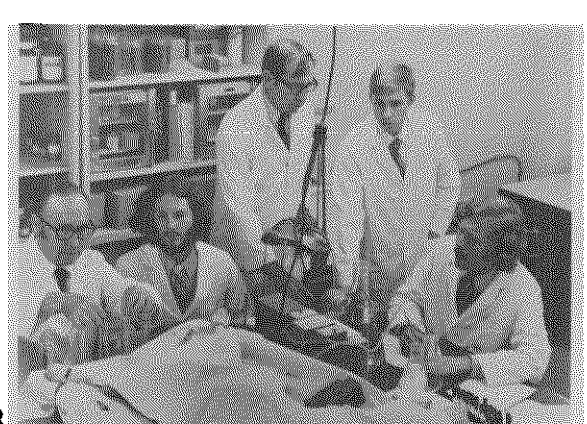

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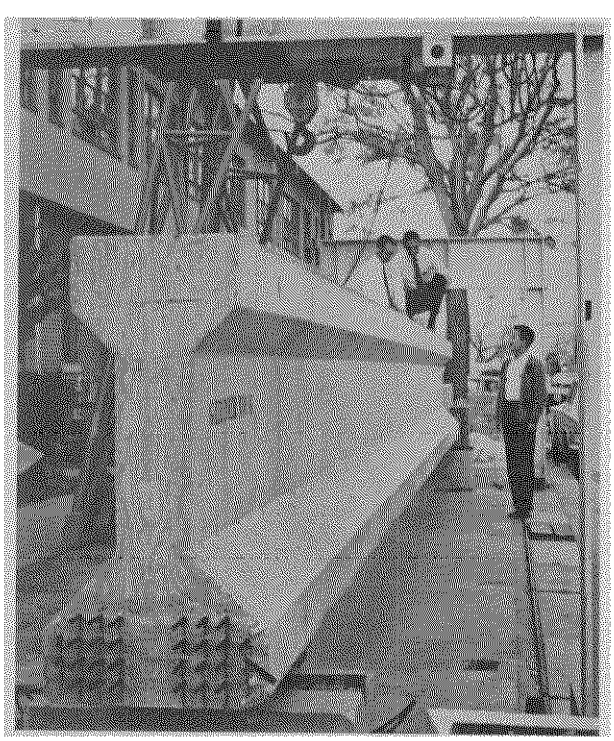

4

1—Mechanical Engineering juniors studying strains in a disc using photoelastic methods.

2—Students using analog computers and Minuteman digital computers in the Systems Laboratory of the Electrical Engineering Department.

3—Kidney research for a group of students (pre-medical) in Chemical Engineering at the Veteran's Administration Hospital.

4—Civil Engineering research on prestressed concrete long span highway girder.

NSPE Calls for Metric System Adoption

In a statement to the U. S. Senate Committee on Commerce in conjunction with hearings on conversion to the metric system, the National Society of Professional Engineers supported passage of the bill to direct the Secretary of Commerce to develop and implement a coordinated national plan of metric conversion within the next ten years.

NSPE's statement noted that there is a strong conviction in the engineering community that use of the metric system will make it easier for engineers to communicate with the scientific community, and with all counterparts internationally, "thus facilitating a greater exchange of ideas and a simplification in commerce."

NSPE told the Senate Commerce Committee that most professional engineers support the metric conversion approach. The National Society also pointed out that engineers look upon metrication as a "well-timed occasion to promote better engineering and consequent improved products through modernization of existing codes and standards."

NSPE noted the need for a pervasive and immediate educational program at all levels in America's schools on metrication.

In the Society's official policy on the metric system, adopted last July, NSPE says "we are convinced that the benefits to all future generations of conversion to the metric system of measurements far outweigh the difficulties that will be encountered in the transition period."

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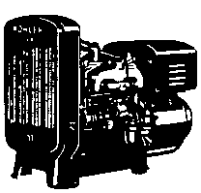

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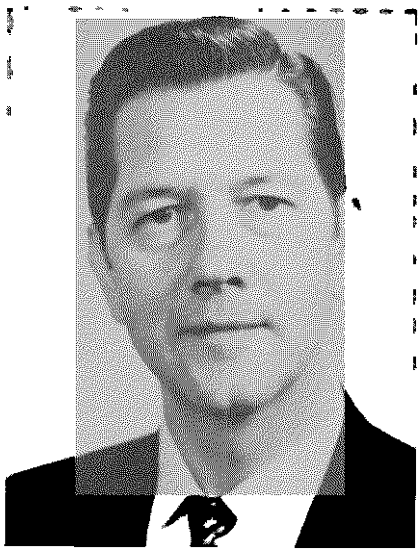
James W. Reeves Appointed Dean of Engineering Univ. of Southwestern La.

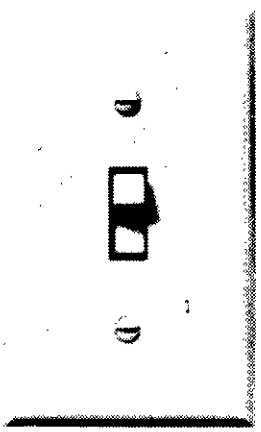


James W. Reeves, associate professor of Civil Engineering at the University of Southwestern Louisiana, has been appointed Dean of the College of Engineering, effective July 1, 1972. Mr. Reeves is presently serving as first vice-president of the Lafayette Chapter of LES, and is listed in Who's Who, American Men and Women of Science, and Outstanding Educators of America.

The new dean's 13 years of service on the USL faculty have garnered for him the Halliburton Education Foundation Award for Excellence in Teaching for 1971. His involvement in engineering education began with a B.S. in Civil Engineering, earned at LSU in 1952, followed by a master's degree in the same field in 1959 from LSU, and a Ph.D. from the University of Arizona in 1970. Dean Reeves' continuing concern with education is reflected in the many additional hours of graduate credit he has earned in subjects related to his field.

He is currently a member of the American Society of Civil Engineers, the American Society of Engineering Education, and an associate member of the LES.

It's not worth a flip...



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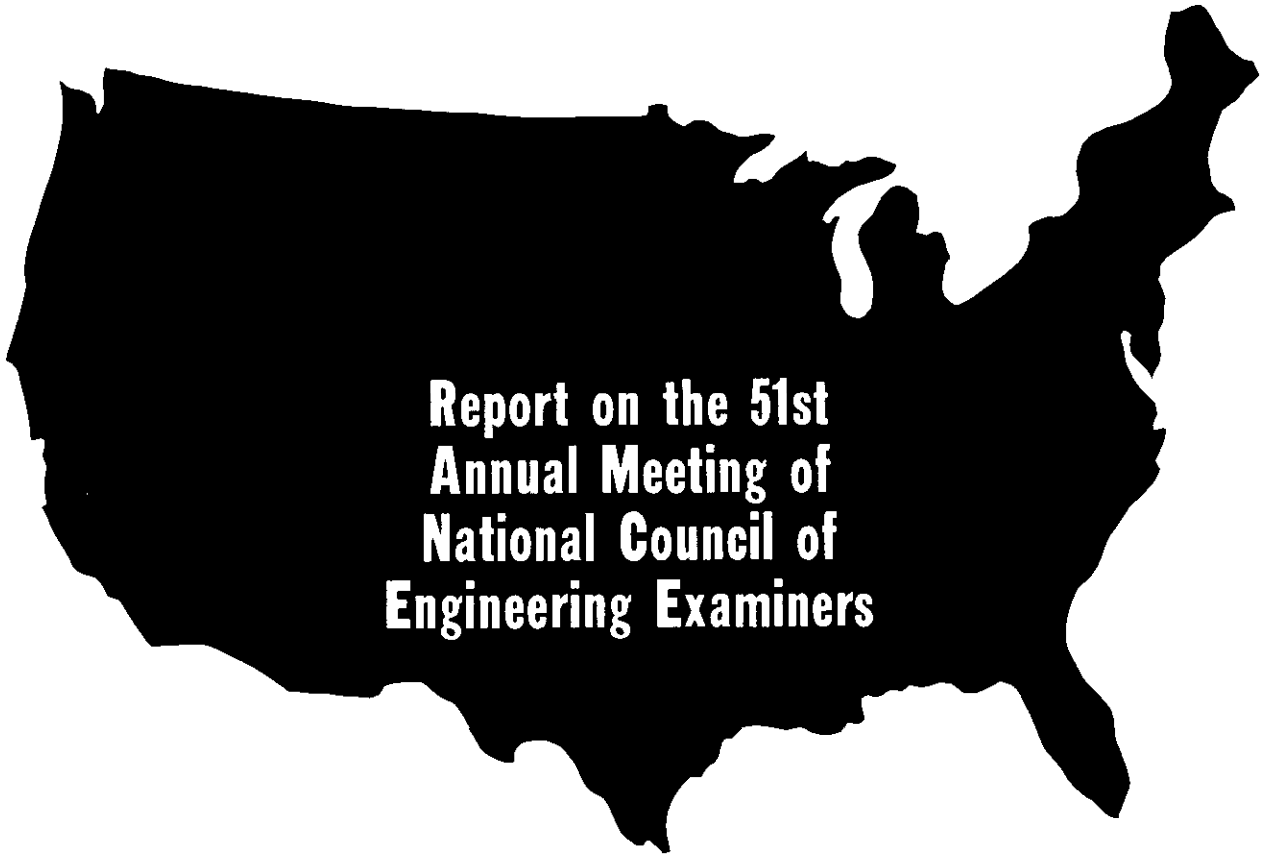

Report on the 51st Annual Meeting of National Council of Engineering Examiners

The National Council of Engineering Examiners held its 51st Annual Meeting in Seattle, Washington, August 21-25, 1972 with chairman Waldemar S. Nelson and members of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors, and its executive secretary, Dr. Daniel H. Vliet, in attendance. Various business sessions discussed many items of interest to Louisiana engineers.

It was reported that as of 1972 there was a total of 393,725 engineering registrations in the United States and a total of 27,541 registrants as land surveyors only, with 15,845 registered as both engineers and land surveyors. The total number of registrations is up from 1971 and there have been steady increases every year since 1937 when the publication of such records was started.

The National Council adopted a revised version of the Model Law for the Registration of Professional Engineers and Land Surveyors, including a new Chapter 3 proposing a joint board model law where registration of engineers and land surveyors is conducted by a single agency. Printed copies of the new model law will be available from the executive director of N.C.E.E. shortly.

The council further adopted suggested model rules of professional conduct for adoption by state registration boards setting forth standards intended to safeguard the life, health, property and welfare of the public by maintaining a high standard of integrity, skills and practice in the profession of engineering. These model rules also will be published and made available by N.C.E.E.

The council received the final report of a special study committee on engineering technicians and technologists prepared by the Southern Zone of the National Council of Engineering Examiners reviewing at length the problems associated with registration of graduates of engineering technician and technology schools. A survey of current practices of state boards in this regard was presented and various aspects of the situation were discussed at length. It was reported that as of 1971 there are 74 schools awarding technology degrees curricula accredited by the Engineers Council for Professional Development and that these schools had 9,687 graduates.

At the meeting announcement was made of publication by the N.C.E.E. of a study guide titled "Professional Engineering Examinations, Vol. I (1965-1971)." The 412-page book is a compilation of past uniform examinations prepared by N.C.E.E. Although no questions appearing in the book will be repeated on future exams, the book should help candidates orient themselves to the format and type questions to expect. This study guide should be of great assistance to those seeking engineering registration by examination and is available from N.C.E.E. as noted elsewhere in this issue.

In closing ceremonies the National Council of Engineering Examiners installed Major General Roy T. Sessums as its president for the coming year. Sessums is a member and past chairman of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors, a past president of the Louisiana Engineering Society, and Vice-President of Freeport Minerals Company; and was appointed by the president as a member of the Mississippi River Commission. He was formerly director of the Louisiana State Department of Public Works and prior to that was Dean of Engineering at Louisiana Polytechnic Institute at Ruston. His career thus includes employment in industry, government and education and he has served in consulting capacity on numerous occasions. Louisiana has an able representative as president of the National Council of Engineering Examiners.

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Council of Deans of Engineering Schools in Louisiana

During the early part of 1971, the Louisiana Engineering Society engaged a group of prominent engineering education consultants to study the needs of engineering education in Louisiana and to prepare a report which would be submitted to the Louisiana Coordinating Council for Higher Education for their consideration in matters concerning engineering. One of the recommendations of this report was that the deans of accredited and recommended engineering schools in the state form a committee to assist in implementing these initial recommendations and to serve as an agency for coordinating engineering education activities in the state through discussion of problems of mutual interest. As a result of this recommendation, an organizational meeting was held on July 27 at the joint meeting of the L.E.S. and the Mississippi Engineering Society in New Orleans. This meeting was attended by the following:

T. J. Hogue, 1971-72 President L.E.S.
Hoyt W. Brown, 1972-73 President L.E.S.
Ben Bogard, Dean, Louisiana Polytechnic University
M. Q. Burrell, Acting Dean, Southern University (BR)
Frank W. Macdonald, Acting Dean, Tulane University
B. S. Pressburg, Associate Dean, LSU (Baton Rouge)
James Reeves, Dean, University of Southwestern Louisiana
Roger W. Richardson, Dean, LSU (Baton Rouge)
Ed Russo, LSU (N.O.), substituting for Fritz Dohse, Head, Dept. of Engineering Science

Mr. Brown opened the meeting with a few remarks on engineering education and the problems facing it as he and the L.E.S. Board of Directors see them. Points he mentioned included: (1) the establishment of a single board; (2) the report to the Coordinating Council prepared by the L.E.S. consultants and which the L.E.S. Board endorsed; and (3) the limited dollars available to meet the needs of engineering education in the state. He said that this emphasizes the need for coordination among schools and offered the services of the L.E.S. in effecting this. He reviewed the role of various L.E.S. groups which are concerned with education.

Mr. Hogue amplified these remarks and suggested other ways —such as assistance in finding summer employment for faculty— that the L.E.S. could help. He asked Dean Richardson to act as temporary chairman of the meeting.

Dean Richardson, in response, asked that the L.E.S. designate a specific liaison member or members to the committee. This has subsequently been done. The liaison members are Mr. Hoyt Brown, President of L.E.S., New Orleans, and Mr. George L. Heller, Monroe, chairman of the Society's Committee on Engineering Education.

After considerable discussion, it was agreed that an organization should be formed with the following general objectives:

(1) To implement the consultants' recommendations.

(2) To speak for engineering— e.g. on proposed legislation such as the licensing bills before the '72 legislature.

(3) To consider matters relating to improvement of the profession of engineering in the state.

(4) To discuss educational problems of mutual interest.

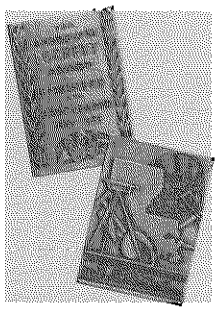
It was also decided that the committee organization should be a small one with the only officers being a chairman and a secretary. Deans Richardson and Pressburg were nominated and agreed to serve as chairman and as secretary respectively on a temporary basis for one year.

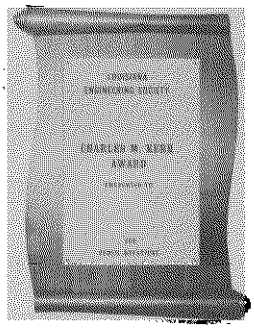
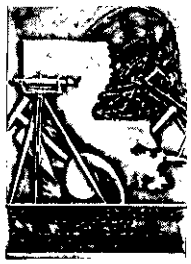
Meetings will be in conjunction with the annual and the spring L.E.S. meetings, with one or two others per year on call of the chairman. Meeting locations of the latter will be rotated. The next meeting was tentatively set for Friday, November 3, in Lafayette.

Numerous suggestions were made as to specific topics to be discussed at these meetings. Among others, these were listed: (1) formula budgeting, (2) coordination of program offerings to facilitate transfers between institutions and to avoid unnecessary duplication, (3) the concept of Professional Schools of Engineering, (4) the five-year program for the first accredited degree, (5) position on technician and technology programs, (6) views on professional registration, legislation, or other current problems. These will be put on the agenda for future meetings.

The membership of the committee was discussed at length. After considering the pros and cons, the majority opinion was to limit academic membership to the deans, their staffs or other representatives from those institutions which the L.E.S. report recommended should offer engineering programs.

The Deans' Council feels that it can serve a useful service in attempting to coordinate engineering education activities within the state and in formulating recommendations on matters pertaining (1) to engineering education and (2) to the welfare and practice of the engineering profession. Such matters can be discussed with the legislative and regulatory agencies of the state. The Deans' Council will also assist in liaison with national professional engineering societies. Activities of the Deans' Council will be reported in subsequent issues of the LOUISIANA ENGINEER.



L.E.S. AWARDS PROGRAM

T. J. Hogue, Jr., P.E.
Chairman, Honors & Awards Committee

Recognition of fellow engineers has always been an important program of the Louisiana Engineering Society. It has been the Society's feeling that honors and awards should be given deserving members so that they will receive public recognition of their attainments, and also to inspire others to greater heights.

The Society has six basic awards. These are the Andrew M. Lockett Medal, Technological Accomplishment Medal, A. B. Paterson Medal, Charles M. Kerr Public Relations Award, the Louisiana Engineer Award of Merit and the Leo M. Odom Award.

The Andrew M. Lockett Medal is the Society's civic activities award and was first given in 1951. Measuring 2 x 2½ inches, the heavy medallion is given annually to an engineer for distinguished civic service in the public interest without compensation for those services.

The Technological Accomplishment Medal is given for distinguished services by an engineer for technological advancement or discoveries as contributions to the advancement of engineering. Like the Andrew M. Lockett Medal, it was first awarded in 1951.

The Louisiana Engineering Society has a special award for the engineer who distinguishes himself in management. This is the A. B. Paterson Medal which was first given in 1965. Primary criterion for selection is achievement in management rather than engineering or scientific attainment.

The character and scope of contributions to the Society's overall public relations program is also recognized to encourage other members to take a greater part in public relations on the chapter or state level. Named the Charles M. Kerr Public Relations Award, it was first presented in 1965.

It should not be thought that in order to receive recognition from the Louisiana Engineering Society an engineer must be practicing in the profession for a great length of time. Young engineers are acknowledged by the Louisiana Engineer Award of Merit.

The Leo M. Odom Award, named after its first recipient in 1972, is given for distinguished service to the engineering profession in Louisiana by a registered Professional Engineer member of the L.E.S. over a period of long duration, including leadership in technical societies as well as this and other professional engineering groups.

Of course, besides these awards given on the state level, each chapter has its own awards given to its outstanding members.

Nominations may be made by chapter or state officers, the Board of Direction, the Executive Committee or the equivalent body of any chapter, or by three or more members of the Society.

When nominations are submitted, they should be supported by:

(a) A full statement of the training, experience and notable contribution of the nominee.

(b) A statement of the basic reasons for submitting the nomination and for believing the nominee eligible for the honor.

(c) Such other information and reference as may be of assistance to the Board of Direction in considering and acting upon the case.

(d) It is essential that such nomination carry the current title and company connection of the candidate, and if he is retired, his present permanent address.

The selection for the award to be recommended to the Board of Direction must be a unanimous vote of the Society's Honors and Awards Committee.

Awards will be presented during the Society's Annual Spring Meeting in March.

LOUISIANA TECHNICAL SOCIETIES

(Editor's Note: L.E.S. is attempting to compile a list of all technical and professional engineering societies in Louisiana. We realize that this is not a complete list. Please notify us of any others so that we can obtain meeting notices and other information.)

American Ceramic Society, Inc.:

Southwest Regional Section (Chairman ACS)
Joe D. Hill
Babcock and Wilcox Company
Central Exchange IR
777 South Central Expressway
Richardson, Texas 75080

National Institute of Ceramic Engineers
Frank Reid
Executive Director
4055 North High Street
Columbus, Ohio 43214

American Institute of Aeronautics & Astronautics:

New Orleans Section (Chairman)
Ted Leyden
New Orleans Section AIAA
3420 Metairie Court
Metairie, Louisiana 70002

American Institute of Chemical Engineers:
Lynn Burnside, Chairman
c/o Freeport Sulphur Company
Belle Chasse, Louisiana 70037

American Institute of Industrial Engineers:

New Orleans Chapter (President)
Richard G. Foley
The Boeing Company
P. O. Box 29100
New Orleans, Louisiana 70129

American Nuclear Society:
Octave J. DuTemple
Executive Secretary
2400 East Ogden Avenue
Hinsdale, Illinois 60521

American Society of Agricultural Engineers:

National Headquarters
J. L. Butt
Executive Secretary
2950 Niles Road
St. Joseph, Michigan 49085

Southwest Region (Chairman)
Carl T. Peters
No. 6 Christopher Drive
North Little Rock, Arkansas 72116

Louisiana Section (Chairman)
Bobby G. James
c/o Southwestern Electric Power Company
P. O. Box 1106
Shreveport, Louisiana 71101

Baton Rouge Section (Chairman)
Gerald L. Ray
1143 Oakley Drive
Baton Rouge, Louisiana 70806

American Society of Civil Engineers:

Louisiana Branches (Presidents)
J. W. Thrasher
919 Booth Drive
Shreveport, Louisiana 71107

S. L. Poleynard
1725 S. Tamarix Drive
Baton Rouge, Louisiana 70808

W. B. Conway
1055 St. Charles Street
New Orleans, Louisiana 70130

American Society of Engineering Education:

Gulf Southwest Section
Dr. Ben T. Bogard, Dean
College of Engineering
Louisiana Tech University
Ruston, Louisiana 71270

National Section
Leslie B. Williams
Executive Director
One DuPont Circle
Washington, D.C. 20036

American Society of Mechanical Engineers:

Baton Rouge Chapter (Chairman)
Roy Birdwell
Allied Chemical Company
Plastics Division
P. O. Box 53006
Baton Rouge, Louisiana 70805

New Orleans Chapter (Chairman)
T. A. Aucoin
4574 Hickerson Street
New Orleans, Louisiana 70127

American Society of Safety Engineers:

New Orleans Chapter (President)
Richard Fox
2800 ITM Building
New Orleans, Louisiana 70130

Institute of Electrical & Electronics Engineers:

New Orleans Section (Chairman)
H. E. Markel, Jr.
317 Baronne Street
New Orleans, Louisiana 70112

Instrument Society of America:
G. D. Parsons, Chairman
c/o John H. Carter Company, Inc.
2728 North Arnoult Road
Metairie, Louisiana 70002

National Council of Engineering Examiners:
Roy T. Sessums, P.E.
President, NCEE
P. O. Box 61520
New Orleans, Louisiana 70160

Walter J. Edelblut, Jr.
Executive Director
Box 752
Clemson, South Carolina 29631

Harry Simrall, P.E.
Vice President NCEE, Director Southern Zone
P. O. Drawer DG
State College, Mississippi 39762

Orland C. Mayer, P.E.
President-Elect, NCEE
2830 S. Cloverdale Road, Rt. 2
Meridian, Idaho 83642

Orley O. Phillips, P.E.
Vice President, NCEE, Director Western Zone
9100 15th Street, Suite 700
Denver, Colorado 80202

Herman A. Moench, P.E.
Vice President NCEE, Director Central Zone
Rose-Hulman Institute of Technology
Terre Haute, Indiana 47803

Morton S. Fine, P.E.
Vice President NCEE, Director Northeast Zone
Box 17083 Bishop's Corner
West Hartford, Connecticut 06117

Society of Automotive Engineers:

New Orleans Chapter
James E. Wales, Jr.
Assistant Equipment Engineer
Transit Department
New Orleans Public Service, Inc.
2838 Iberville Street
New Orleans, Louisiana 70119

National Chapter
Joseph Gilbert
Secretary & General Manager
2 Pennsylvania Plaza
New York, New York 10001

Society of Petroleum Engineers of AIME:

Delta Section (Chairman Elect)
Joe E. Wirsching
Humble Oil & Refining Company
P. O. Box 60626
New Orleans, Louisiana 70160

South Louisiana Section (Chairman)
O. D. Whitescarver
United Oil of California
P. O. Box 1281
Houma, Louisiana 70360

Evangeline Section (Chairman)
N. J. Sheffield
Sohio Petroleum Co.
P. O. Box 51468
Lafayette, Louisiana 70501

Louisiana-Arkansas Section (Chairman)
H. Gifford Smith
Arkla Gas Company
P. O. Box 1734
Shreveport, Louisiana 71102

Mississippi Section (Entire State) (Chairman)
William D. McCain, Jr.
P. O. Drawer PE
State College, Mississippi 39762

PROFESSIONAL ORGANIZATIONS

Consulting Engineers Society:
Chris Demopulos, President
P. O. Box 1071
Baton Rouge, Louisiana 70821

Louisiana Engineering Society:
Hoyt W. Brown Jr., President
P. O. Box 2683
Baton Rouge, La. 70821

AN INVITATION TO PARTICIPATE

LES

LOUISIANA ENGINEERING SOCIETY

AN INVITATION TO MEMBERSHIP

Membership in the Louisiana Engineering Society is an important part of your personal and professional life. Think of the amount of time and money you have invested in your professional training. You certainly carry insurance on your life and your physical property. But what about your time-and-dollars investment in your profession which is undoubtedly your most valuable asset?

In a society based largely on group relations, the engineer needs to safeguard his professional and economic welfare. He needs protection in the Legislature from those who would damage his status. He needs the benefits of prestige built up through group public relations and a strong voice to stress that he is a professional man. He needs protection against unethical competition and against all influences which might undermine public confidence in his integrity and competence. He needs an instrument for shaping public policy of his profession. These safeguards and needs are realized through membership in the Louisiana Engineering Society.

GRADES OF MEMBERSHIP

Member—Registration as a Professional Engineer in any state, or graduate of approved college, plus experience in a branch of engineering not provided for in Louisiana registration laws, or registered Land Surveyor in La. **Professional Investment $25.**

Junior Member—An EIT certificate from any state, or graduate of approved college, and not less than 20 nor more than 32 years of age . . . **Professional Investment $17.**

Affiliate Member—An engineer or other person whose experience qualifies him to cooperate with engineers in the advancement of professional knowledge and practice . . . **Professional Investment $28.**

Student Member—Pursuit of an engineering degree via full-time engineering curriculum in an approved college . . . **Professional Investment $1.**

Non-resident membership is available to those residing outside of Louisiana and the Professional Investment is approximately 57% of that shown for LES.

LOUISIANA ENGINEERING SOCIETY
APPLICATION FOR MEMBERSHIP

GENTLEMEN:

I hereby apply for admission into the Louisiana Engineering Society as a _____ (grade) and agree to comply with the Constitution and Bylaws and the Code of Ethics of the Society. I also apply for admission into the National Society of Professional Engineers, if qualified and if I have indicated 'yes' to question No. 8 opposite.

Please assign me to the Chapter checked below:

Alexandria ☐ Baton Rouge ☐ Bayou ☐
Lafayette ☐ Lake Charles ☐ Monroe ☐
New Orleans ☐ Shreveport ☐
Non-Resident ☐ _____ ☐

☐ INTRODUCTORY MEMBERSHIP OFFER ACCEPTED

Date _____

Signed: _____

FUNCTIONAL SECTION PREFERENCE
(Check One)

☐ Government ☐ Private Practice
☐ Industry ☐ Education

PLEASE COMPLETE THE FOLLOWING SPACES

1. Name _____ (Last) (First) (Initial)
2. Home Address _____ (Street) (City and State) (Zip Code)
3. Business Affiliation _____ Position or Title _____
4. Business Address _____ (Street) (City and State) (Zip Code)
5. Telephone: Home _____ Office _____ Please Send All Mail to: Home ____ Office ____
6. REGISTRATION: PE ☐ LS ☐ EIT ☐ None ☐
   Branch _____ State _____ Reg. No. _____
7. Are you now affiliated with NSPE? Yes ☐ No ☐ If yes, what state? _____
8. If no, do you want to become a member of NSPE? Yes ☐ No ☐
9. Have you ever been a member of LES? Yes ☐ No ☐ If yes, you must also complete an 'Application for Reinstatement'.
10. Birth date _____ Age _____ Wife's first name _____
11. Education _____ (School) (Date Graduated) (Degree Obtained)
12. Major engineering discipline _____

NOTE: If you are a PE, EIT or LS only a Sponsor is needed, otherwise please list the names of three LES members as your references. A brief professional experience record must be attached if you are not a PE, EIT or LS.

1. _____
2. _____
3. _____

Mail to LES, P. O. Box 2683, Baton Rouge, La. 70821.

Delaware's Engineers Look to Self-Regulation Of the Profession

John G. S. Billingsley, P.E.
Senior Consultant, Du Pont Co.
Engineering Department

State Representative
Delaware Legislature

Professional engineers in almost every state hold only a second-class professional citizenship. A poll of several hundred persons in primarily white-collar areas in Delaware showed that the public held professional engineers in low professional esteem compared with doctors, lawyers, dentists, nurses, teachers, and even some tradesmen.

An investigation of government-appointed Delaware committees dealing with subjects that could certainly benefit from engineering expertise showed professional engineers to be conspicuous by their absence. None of the members of the State Coastal Zone Industrial Control Board or the Water and Air Resources Commission or the proposed Environmental Protection Appeals Board was a professional engineer.

The working pattern of engineers is, in general terms, unique among the professions. Professionals generally have a direct client - practitioner relationship with remuneration determined on a fee basis. Most engineers work for a salary within the industrial community. This working pattern is no doubt a contributing factor to the relative obscurity of the engineer in the eyes of the general public.

Diversity, a strong and desirable characteristic of the engineering profession, results in a weakness — fragmentation of our profession into technically oriented groups. Thus, we lose the common ground of an inclusive professional society which is a characteristic of other, more respected professions. I believe the "glue" of an overall professional engineering association is needed to bind us together if we are to improve the professional aspects of engineering. We should be professional engineers first and mechanical, civil, or electrical engineers second. The eminent success that doctors and lawyers have had in establishing their professional position in the eyes of the public is no doubt related to their positive public identification as doctors and lawyers first, and specialists second.

An investigation of the laws governing professional engineers in other states and countries led to the conclusion that the route to a strengthened engineering profession in Delaware was through laws governing the profession. The basis for government control of professional engineering seems to be the premise that members of the profession are not capable or responsible enough to administer their own professional activities in the best interests of the public.

The Delaware professional and technical engineering societies, convinced of the merits of self-regulation, banded together to develop legislation based on the following premises:

1. The need to control the practice of professional engineering for the protection of the life, health, and property of the public who receive those professional services and who are not able, through their own expertise, to judge the services rendered; and

2. The requirement that the qualifications of a person to practice a profession and to identify himself as a member of that profession shall be controlled by his peers, a group of responsible people to whom the government delegates the authority to administer regulatory laws.

It should be noted that self-regulation of the medical and legal professions has been achieved in almost all countries; whereas self-regulation of the engineering profession, up to the time of the Delaware Professional Engineers' Act, was found only in Canada.

Fifty years of self-regulation have achieved a great deal for the Canadian professional engineers. Approximately 85 percent of all qualified engineers in that country are registered. The total effect has been to establish in the minds of the employers and of the public that there is a legal requirement for registration when practicing before the public and that registration is a mark of a qualified engineering practitioner. Registration as a professional engineer is now a condition of employment in a high percentage of engineering positions.

Registration is recognized as a route to professional recognition. A "PE" after one's name is a mark of professional prestige. The prestige associated with being a professional engineer has developed a certain esprit de corps and a consciousness of responsibility to the public for the protection of its interests. It has engendered perceptiveness which helps expose situations in which members of the profession are acting outside the interests of the public or the profession, or in which nonengineers are practicing engineering. By virtue of the members registered, the Canadian professional engineering community has gained increasing influence with all segments of the economy, the community, and the political structure.

It was concluded that the profession and public in Delaware would benefit, as did the Canadians, from a self-regulated engineering profession. Sustained effort by Delaware technical and professional engineering societies resulted in the development of comprehensive self-regulatory legislation for professional engineers.

The Delaware professional engineers stopped treating politics like a disease and became polit-

ically involved. They convinced the House of Representatives, the Senate, and the governor that it would be in the best interests of the state and public to vest members of the engineering profession with the regulation of the practice of engineering. The governor and every member of the House of Representatives and of the Senate were personally contacted by one or more professional engineers. One or more members of every professional and technical engineering society in the state and the State Board of Registration for Professional Engineers presented supportive testimony at the public hearing to review the proposed law.

The results were that the bill received the affirmative vote of every legislator in the state except one. The governor provided his backing and support of the proposal from the beginning. The key feature of the new Delaware Professional Engineers' Act is the transfer of regulatory powers to the members of the profession. (See below.) The new law became effective July 7, and it is hoped the new council will be established by the end of the year.

Administration of the actual registration procedures will be essentially the same as before passage of the new law. It is anticipated, however, that the public will now receive legal protection from illegal practice by nonengineers and by stringent scrutiny of those members acting outside the best interests of the public and of the profession.

Delaware has probably a higher per capita population of engineers than any other state and is an ideal location to test out this new concept in American law. The challenge of the new responsibility is being met with enthusiasm; we expect the results to be so favorable that other states and professions will follow suit.

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Regulation of the Engineering Profession in Delaware

Previous Professional Engineering Law

1. The profession was regulated by the state. Registrants had no "vote."
2. The profession was regulated by a seven-man Registration Board appointed by the governor.
   Four professional engineers and three land surveyors (one land surveyor from each county; no more than four members from one political party; no more than two professional engineers from civil, electrical, mechanical, chemical, all other branches.)
3. Registration requirements—As per Delaware laws.
4. Fees—$30 registration, $6 renewal.
5. Fee changes—By action of the legislature.
6. Changes in the law—By action of the legislature.
7. Bylaws (adoptions or changes)—By action of the Registration Board.

The Delaware Professional Engineers' Act

1. Each registered professional engineer has a "vote" in the regulation of the profession.

2a. The profession will be regulated by a council of eleven professional engineers.
   Three appointed by governor (one from each county)
   Eight elected by members of the profession: one civil, one mechanical, one electrical, one chemical, one from other disciplines, one from government employment, one from private consulting, one from industry.

2b. The initial council shall consist of all those professional engineers on the Registration Board who wish to be members of the council, plus eight elected members.

3. Registration requirements—Same
4. Fees—Same
5. Fee changes—By majority vote of members voting by letter ballot.
6. Changes in the law—By majority vote of members voting by letter ballot.
7. Bylaws (adoptions or changes)—By majority vote of members voting by letter ballot.

Ocean Outfalls of Concrete Pressure Pipe Help Preserve Tropical Paradise

The water surrounding the Virgin Islands is clear and inviting, and the government of Virgin Islands Division of Environmental Health, Department of Health, wants to keep it that way.

Mounting waste problems, due to accelerating residential, tourist and industrial growth, were particularly acute on the islands of St. Thomas and St. Croix. The optimum environmental solution in each case was an ocean outfall constructed of concrete pressure pipe.

Waste water treatment plants are being constructed on each island and lines were designed to disperse the treated waste water at the maximum feasible depth and distance. The actual discharge of treated waste water was accomplished over several hundred feet by using diffuser pipe . . . with 3½ " ports located to take maximum advantage of ocean currents.

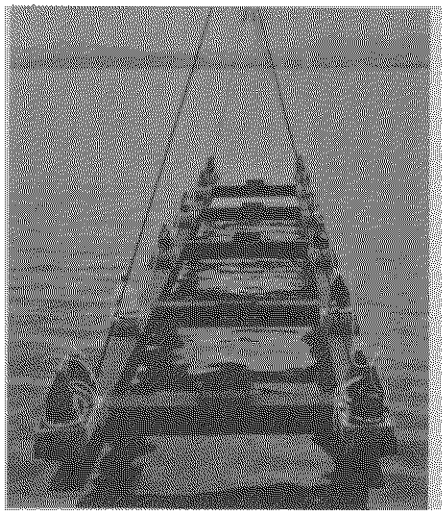
While the solution was the same, the installations were quite different. A major coral reef 8,000 feet from shore at St. Croix reqired 9,350 feet of 48" to cross this reef and 700 feet of 36" diffuser pipe to reach a depth of 44 feet. The line stopped short of a drop-off point where the ocean floor plunges to over 600 fathoms.

At St. Thomas there was no coral reef. Only 2,650 feet of 36" concrete pressure pipe was required to reach a depth of minus 75 feet. The last 500 feet was diffuser pipe.

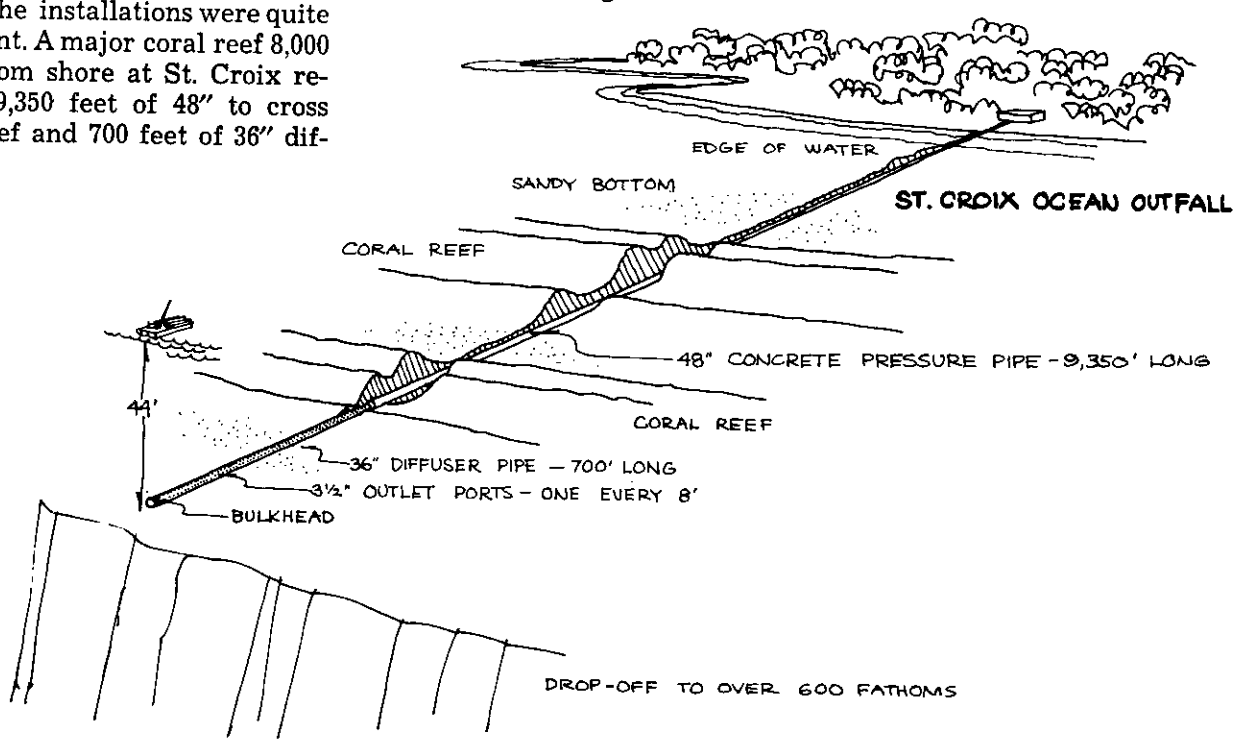
Special construction equipment for the project included a shark escape cage for the divers and a blasting template to lower the explosives into position in the rough open sea. Blasting with new "shaped charges" was particularly important on the St. Croix line where three coral reefs (one 40 feet high) had to be cut through. The explosives were lowered on the template to prevent drifting. The divers simply lifted them off the template in exact relationship to each other to achieve the maximum effective blast. As many as three blasting attempts were required to clear the necessary trench depth.

Concrete pressure pipe in special shop-welded 48-foot lengths was manufactured by Price Brothers Company at its Hattiesburg, Mississippi plant.

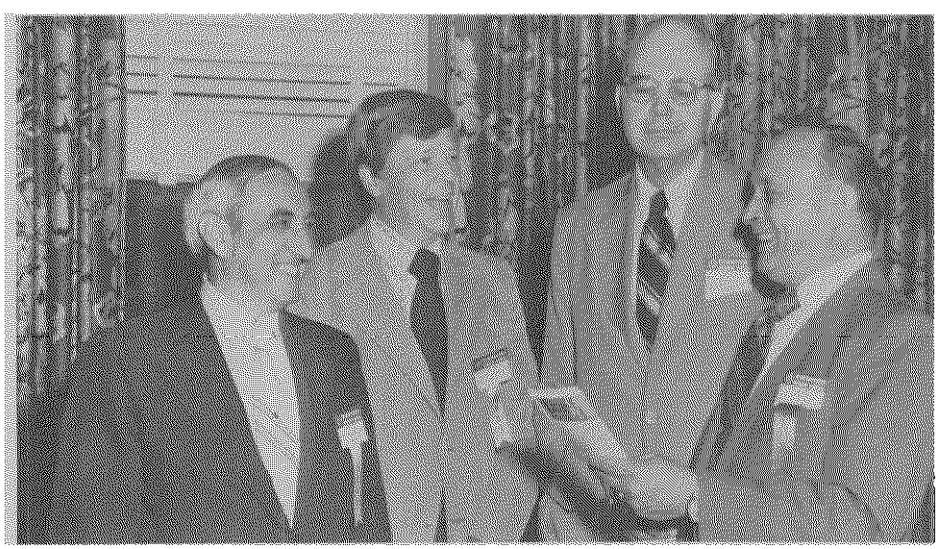
Both installations were under the supervision of the Department of Health for the government of the Virgin Islands.



New "shaped changes" manufactured by Jet Research Center being lowered on blasting template off shore of St. Thomas, Virgin Islands.



Key NSPE leaders met in Washington to discuss NSPE's position on competitive bidding for engineering services. Seated, left to right: Lee Loevinger, representative of Hogan & Hartson, a Washington legal firm, and J. Caldwell Wilson, P.E., president of NSPE. Standing, left to right: James F. Shivler, P.E., president-elect, NSPE; Milton Lunch, NSPE general counsel; and Paul H. Robbins, P.E., executive director.



Discussing the American Society of Mechanical Engineers Conference, Petroleum Division, are Hans Heinemann, local arrangements chairman; R. F. Engel, plant trips committee; Frank H. Walk, advisory committee, and Pat Randolph, Petroleum Division chairman. Mr. Heinemann and Mr. Walk, both members of the Louisiana Engineering Society, were but two of the many LES members attending the conference at the Fairmont Roosevelt Hotel September 17-21.

LES Lafayette Chapter officers, pictured from left to right, are as follows: Dr. William A. Klos, Secretary; Harold P. LeRay, 2nd Vice-President; Jesse C. Odom, President; Dr. James W. Reeves, 1st Vice-President; Larry G. Smith, Treasurer.

N. O. Woman's Auxiliary

The Woman's Auxiliary to the New Orleans Chapter of the Louisiana Engineering Society presented a scholarship check to Samuel J. Stokes, III. Mrs. W. B. Martin Jr. and Mrs. Lawrence C. Grundmann Jr., represented the New Orleans Auxiliary in giving the check to Mr. Stokes, who is a sophomore in electrical engineering. He is the son of Mr. and Mrs. Samuel J. Stokes Jr., of Covington.

New Members

IEEE SEMINAR

On Thursday, October 19, the New Orleans Section of IEEE is conducting an all day seminar at the Hilton Inn. Parallel morning sessions will include System and Control Circuit Design and Stability Considerations of Industrial Power Systems as well as Reliability Problems in Electronic Data and Communications Systems. The afternoon sessions will include Dynamic Operation and Economics of Electric Utility Systems with a parallel session on Security and Privacy in Electronic Data and Communications Systems.

Registration fee, including lunch, will be $10.00 with reservations and $12.00 without reservations. Reservations can be made with Mr. P. J. Boogaerts at 529-8561, New Orleans, La.

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Pineville, La. 71360

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Petroleum

ASWELL, DONALD L.
New Orleans, La.
Mechanical

BEGGS, H. D.
Ruston, La.
Petroleum

BIGHAM, JAMES G.
Metairie, La.
Civil

BLACKWOOD, III, WILLIAM H.
Baton Rouge, La.
Mechanical

BLOOM, WILLIAM J.
Houma, La.
Civil

BRILL, LAWRENCE F.
Coral Gables, Fla.
Civil

BROADBENT, ELMER R.
St. Francisville, La.
Civil

BUZZO, BENJAMIN W.
Orinda, Cal.
Mechanical

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Electrical

COTTEN, RONALD E.
Santa Fe, N.M.
Civil

CUBINE, JOE K.
Tulsa, Okla.
Petroleum

DIAMOND, ANTHONY J.
New Orleans, La.
Mechanical

DONAHUE, JR., JOHN L.
Covington, La.
Civil

DONOHO, THOMAS B.
Dallas, Tex.
Civil

DUCARPE, JR., MAURICE J.
Metairie, La.
Civil

DUFILHO, WILLIAM McDONALD
Governors Island, N.Y.
Mechanical

DUSENBURY, CHARLES
New Orleans, La.
Electrical

DYKE, PETER M.
Baton Rouge, La.
Petroleum

EASLEY, WILLARD M.
Baton Rouge, La.
Civil

EASTMAN, LOTON R.
Port Huron, Mich.
Civil

EDWARDS, JR., GEORGE T.
Metairie, La.
Mechanical

FLOWER, PAUL H.
New Orleans, La.
Civil

FONTENOT, J. HAROLD
Metairie, La.
Electrical

FOWLER, GEORGE T.
New Orleans, La.
Petroleum

FUNDERBURK, RUPERT C.
Atlanta, Ga.
Electrical

GALLAGHER, III, FRANK P.
New Orleans, La.
Civil

GERNON, SR., CLARKE J.
Baton Rouge, La.
Mechanical

GREGG, JACK R.
New Orleans, La.
Electrical

HAGGARD, DAVID W.
Alexandria, La.
Agricultural

HALL, JAMES L.
DeRidder, La.
Agricultural

HAMMAKER, PAUL B.
Berwick, La.
Petroleum

HANDSHY, ARTHUR W.
St. Louis, Mo.
Mechanical

HANEY, BEN J.
New Orleans, La.
Civil

HEBERT, RANDALL J.
Lafayette, La.
Civil

HEDRICK, JR., CHARLES A.
Metairie, La.
Petroleum

HENLEY, JAMES H.
Metairie, La.
Civil

HO, TIMOTHY TSEH-MING
Berkeley, Cal.
Electrical

HUGHES, WILLIAM J.
Maplewood, La.
Chemical

HULL, TOMMY L.
Lafayette, La.
Civil

HUMBLE, JAKE W.
West Monroe, La.
Electrical

JENSEN, ALLEN R.
West St. Paul, Minn.
Mechanical

KARKALITS, JR., OLIN C.
Houston, Tex.
Chemical

LeBLANC, JR., CLOVIS J.
Lake Charles, La.
Chemical

LeCLERC, STEPHEN A.
Billerica, Mass.
Mechanical

LEGENDRE, RONALD G.
New Orleans, La.
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LEWTER, MICHAEL E.
Stafford, Tex.
Civil

LOWE, III, EUGENE H.
Winter Park, Fla.
Electrical

MATHERNE, JEROME R.
New Orleans, La.
Electrical

McGEE, JOHNNY A.
Baton Rouge, La.
Chemical

McKNIGHT, HUGH V.
Baton Rouge, La.
Electrical

MYRICK, HENRY G.
Gulfport, Miss.
Civil

NORIEGA, LEANDRO C.
Magnolia, Mass.
Mechanical

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Civil

PARRY, JIMMY H.
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Petroleum

PAULK, LAWRENCE E.
Houma, La.
Industrial

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Winnfield, La.
Agricultural

PIAZZA, II, JOHN L.
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Mechanical

PICKETT, JACK D.
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RATCLIFF, LYNN J.
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Civil

RICHMOND, ROBERT P.
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Chemical

RIGHTER, FREDERICK C.
DeSoto City, Fla.
Civil

ROBICHAUX, RONALD J.
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Chemical

SCHERZINGER, ROBERT F.
Milwaukie, Ore.
Civil

SCICCHITANO, FRANK
Westbury, N.Y.
Civil

SHAMBLIN, JOHN W.
Monroe, La.
Mechanical

SISTRUNK, LAURICE
Baton Rouge, La.
Petroleum

SMITH, JR., WILLIAM B.
Shreveport, La.
Electrical

STEWART, JAMES H.
Baton Rouge, La.
Electrical

SYFAN, FRANK E.
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Petroleum

TAYLOR, DENNIS B.
Metairie, La.
Civil

TESSIER, WALTER A.
Baton Rouge, La.
Civil

VANDERBROOK, JR., FREDERICK H.
LaPlace, La.
Mechanical

VANDERSLICE, CHARLES E.
Lake Charles, La.
Chemical

VICK, JR., C. EDWIN
Raleigh, N.C.
Civil

VICTORY, JR., SIDNEY P.
Houston, Tex.
Civil

WATSON, CHESTER C.
Baton Rouge, La.
Mechanical and Civil

WHITE, DEMPSEY D.
Baton Rouge, La.
Civil

WIETING, JAMES H.
Victoria, Tex.
Electrical

WITTIE, LOUIS E.
Baton Rouge, La.
Civil

YOUNG, RICHARD A.
Metairie, La.
Civil

ZIEFLE, ROBERT G.
Lake Charles, La.
Mechanical

BOARD OF DIRECTORS MEETING

July 29, 1972

Marriott Hotel **New Orleans, La.**

President Hoyt Brown called the meeting to order with the following members present: Roger K. Battle, P.E.; Richard L. Bennett, P.E.; Hoyt W. Brown, P.E.; Ronald P. Cressy, P.E.; Fred C. Culpepper, Jr., P.E.; Marshall B. Ewing, P.E.; Charles W. Hair, Jr., P.E.; George L. Heller, P.E.; Frank M. Heroy, Jr., P.E.; T. J. Hogue, Jr., P.E.; Malcolm L. Hurstell, P.E.; James L. Meyer, P.E.; Frank Miller, P.E.; E. E. Moncla, P.E.; Waldemar S. Nelson, P.E.; Jesse C. Odom, P.E.; Herb Pourciau, P.E.; Arthur R. Theis, P.E.; Jack Thigpen, P.E. and E. P. Williamson, P.E.

The minutes of the June 21st meeting were approved as forwarded to the Board. The motion for approval was made by Dr. Thigpen, seconded by Mr. Heller and passed.

Financial Report—The financial report was given by Mr. Hurstell, Secretary-Treasurer, for the month of June 1972. The report reflects year end totals—receipts as of June 30, 1972 were $87,939.80 with budgeted receipts of $92,000.00 for the same period. Total expenses for the year were $88,549.52 with budgeted expenses of $91,750.00.

Motion by Mr. Nelson, seconded by Mr. Williamson, "that the financial report be accepted as presented." Motion carried.

Mr. Hurstell discussed the upcoming N.S.P.E. meeting in Oklahoma City.

Motion by Mr. Hurstell, seconded by Mr. Nelson, "that the executive secretary of L.E.S. be authorized to attend the Southwest Regional Meeting of N.S.P.E. in Oklahoma City to be held in October." Motion carried.

Section Reports

Professional Engineers in Education—Mr. Williamson, chairman of the P.E.E. section, reported that the section was still working on the environmental handbook in conjunction with engineers in industry. He encouraged engineers in industry to respond to the survey in an effort to complete the project.

Professional Engineers in Government—Mr. Theis, chairman of the P.E.G. Section, submitted the following report:

Chairman Nasca called for the secretary to read the minutes of the March 3, 1972 meeting. The minutes were read by the secretary and accepted as read by a voice vote on the motion by Frank Heroy and seconded by Charles Hair.

Chairman Nasca commended Jerry Dyson and Jim Atteberry for their efforts in increasing attendance and participation of PEG members in the Baton Rouge Chapter.

In reference to the minutes of the last meeting, Chairman Nasca stated that President Hogue had appointed Raymond Pillow to act as an intermediary between the L.E.S. Salary Study Committee and the State Civil Service Department.

Arthur Theis mentioned that he had just reviewed the latest Civil Service proposal. He also said that Mr. Forbes of Civil Service still had not replied to Mr. Hurstell's letter which was referred to in the minutes of the previous meeting.

Chairman Nasca led a general discussion on upcoming meeting between the Louisiana Society of Professional Engineers in Civil Service and the State Civil Service Department concerning Civil Service Classifications and promotions without a list. He invited interested PEG members to attend.

There was a general discussion on the subject of affiliation of other organizations such as the East Baton Rouge Municipal Engineers Association. The consensus was that the status of this subject had not changed since the last meeting.

Frank Heroy (Southwest Region Representative for NSPE-PEG) reported on the NSPE Board of Director's Meeting of July 14, 1972, in Denver and activities of the PEG Board of Governors (see attachment). He invited interested PEG members to attend the Southwest Regional Meeting of PEG at Oklahoma City on October 26-28, 1972.

Chairman Nasca deferred action of sending and furnishing expenses for LES-PEG representatives to the above meeting until the new chairman had studied the matter. He said that the Board of Directors was considering an increase in dues to allow the functional sections a source of operating income and to provide expenses for functional representatives to attend meetings.

Chairman Nasca read a letter of appreciation from outgoing LES President T. J. Hogue.

Chairman Nasca read a letter from G. R. Dyson, Chairman of the Nominating Committee for PEG listing the nominees for the 1972-73 officers. The nominees were as follows: Chairman —Arthur R. Theis; Vice Chairman—Allen L. Cox; and Secretary—James G. Atteberry.

The chairman then asked if there were any nominations from the floor. Mr. Heroy moved that the nominations be closed and that the nominees be elected by acclamation. The motion was seconded by Mr. Hair and passed unanimously.

Chairman Nasca stated that Baton Rouge was the only chapter which had answered his request to recommend engineers in government to be considered for appointment to the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. He noted that he had announced at the September 1971 meeting and the March 1972 meeting that the LES Board of Directors was allowing PEG to recommend the names of five (5) engineers in government to the Board for their review and submittal to the Governor for his consideration in appointing a replacement for Mr. A. D. Jackson on the State Board of Registration. There was considerable discussion at this point concerning the fact that the other PEG chapters failed to take any action on this important subject.

The chairman then read the following list of nominees submitted by the Baton Rouge Chapter: John E. Boagni, Jr.,

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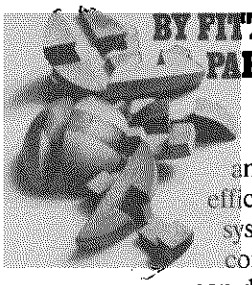

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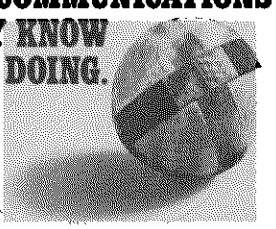

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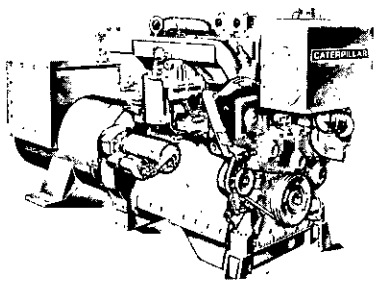

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Gerald R. Dyson, Robert G. Graves, Roger P. Guissinger, Charles W. Hair, Jr. and Frank M. Heroy, Jr.

Upon the chairman's request for nominations from the floor, the following three (3) names were added to the list: Daniel V. Cresap, Al J. Dunn & H. R. Norckauer.

Those attending the meeting voted for the five (5) recommended names to be submitted to the LES Board of Directors in the following preferential order: Charles W. Hair, Jr., Roger P. Guissinger, Daniel V. Cresap, Frank M. Heroy, Jr. and Gerald R. Dyson.

Then in the event that the Board of Directors did not approve one or more of the above, the alternates would be selected from the four (4) names listed below in alphabetical order: John E. Boagni, Jr., Al J. Dunn, Robert G. Graves and H. R. Norckauer.

Chairman Theis discussed the need for increasing the attendance and participation in the State and Chapter Meetings of PEG.

Professional Policy No. 27-C—Employment Practice

"NSPE believes that engineering is a profession whose practitioners must possess a high level of technical knowledge based on formal education and experience, must exercise independent judgment based on that knowledge and experience, and who must exercise independent judgment based on that knowledge and experience, and who must consider the public health, safety and welfare above all other considerations. The service motive must rank high in the individual practitioner's mind.

"NSPE further believes that in order to encourage the practice of engineering as we believe it should be practiced, both the employers and employees have certain definite responsibilities to each other and to the public.

"The employer has a responsibility to treat his engineering employees as professional individuals. The employer should recognize that the professional engineer thrives best on challenging work assignments which need a compatible working environment for their execution. He should also recognize that the engineering employee should receive appropriate recognition in the organizational structure and that his economic rewards must be compatible with other groups in our society.

"The employee is responsible to his employer for the rendering of professional and highly qualified technical decisions based on competent methodology. He is also responsible for assisting in the objectives and goals of the employer.

"Conditions of employment must be compatible with the exercise of the individual professional responsibility.

"NSPE believes that engineer/employer consultations regarding salaries, fringe benefits, working conditions, or any other factors, must be conducted with the above concepts foremost in mind. Such consultations should not be conceived nor should they arrive at agreements which will in any way deprive the individual engineer of his independent judgment.

"NSPE, the state societies and their chapters shall promote the policy of bringing together all parties concerned in any employment group and shall be directly involved, if requested, to sit at a round table of discussion and communication relative to their professional and economic status.

"NSPE believes that collective bargaining is not a desirable or appropriate mechanism to achieve the objectives of proper employment practices. However, in the event that laws, ordinances or regulations mandate that an engineer or group of engineers bargain for legitimate goals then the general principles enumerated in NSPE Administrative Policy 20 shall apply."

Professional Engineers in Industry—Mr. Heller, chairman of the PEI Section, submitted the following report:

The PEI Practice Section met as scheduled from 3:00 to 5:00 p.m. on Friday, July 28. They heard reports of the 1972 legislation affecting Louisiana engineers, given by Hoyt Brown, a report on the NSPE Annual Meeting in Denver by James Janssen, and a report on the Industrial Professional Development Award by Regis Trumps. Both the retiring LES PEI Chairman, James Janssen, and the Chairman-Elect, George Heller, attended the meeting in Denver.

It was announced that there will be a Southwest Regional Meeting in Oklahoma City on October 26-28 of this year and that all NSPE members are invited to attend.

The following resolutions were passed:

1. The LES PEI Section is still firm in its confirmation that legislative revisions previously initiated by the PEI Section should be pursued and the PEI Section would render any assistance that may be required to bring about these changes.
2. It was recommended to the Board that NSPE be requested to develop a policy regarding the exporting of American technology to other nations through either private, corporate or government channels.
3. The PEI Chairman was directed to offer on behalf of the PEI Section an amendment to the proposed LES constitutional amendments that the amount to be collected from the members in addition to their regular membership dues be determined annually by each individual section, but not to exceed $5.00 and that any unused funds at the end of each fiscal year be continued in the account for the section for which it was collected.

The new officers for the coming year were installed. These were George Heller of Monroe as Chairman, Lee Hill of Lafayette as Vice-Chairman, and Regis Trumps as Secretary from New Orleans.

Professional Engineers in Private Practice—Mr. Cressy, chairman of the PEPP Section, requested the L.E.S. Board of Directors to consider a motion favorably acted upon at the PEPP Meeting.

The motion is a follows, "that the Board instruct the Legislative Committee to follow election of delegates to the Constitutional Convention and to follow the activities of the convention and offer assistance to convention delegates on matters affecting engineers."

The PEPP Section reviewed the LES Ad Hoc Committee

report on competitive bidding. The vote was 13 for approval of the report with 3 votes in opposition.

The officers of PEPP for the coming year are as follows: Ronnie Cressy—chairman, Ken Deal—vice chairman, and Asa Ray—secretary.

Legislative Committee Report—Chairman of the Legislative Committee, Carl Heck, Jr. submitted the following report.

"The committee and myself are extremely grateful for the assistance of the entire LES organization. However, I would like to cite a few individuals for special thanks who worked tirelessly to see that LES was represented at all times during the session.

"First, I wish to thank Mr. T. J. Hogue who stayed current with legislative activities at all times and aided in a number of significant ways.

"Secondly, an extraordinary thanks is due to Mr. Gerald Simmons, who is as skillful in the legislative processes as any legislator I know and who cheerfully spent long hours during the day, at night and on week ends to see that the committee was up-to-date with all important legislation.

"Mr. Lamon Moody, Jr. and Mr. Waldemar Nelson served as ad hoc members of the committee at my request and rendered considerable aid and experience to the program.

"Lastly, I am particularly satisfied with the aid rendered by our legal counsel, Mr. Joe Keogh and Mr. Jerry McKernan.

"I regret to report that even with all of our special effort, our legislative program lacked offensive punch. H.B. 982 (Repeal Registration by Branches), the most controversial bill in our package, was killed by the House Committee. Friction generated by this bill, in my opinion, carried over to adversely affect the remainder of the package. The principle opponents to this bill were the Architects who fought the bill on the committee room floor and their allies, the Consulting Engineers Council. Their reason for fighting the bill was that they felt that if it passed all engineers would be exempt from the requirements of the Architect Registration Law. They feel (I believe mistakenly) that only Civil Engineers are presently exempt under the existing law.

"Oddly enough, the Civil Engineers also fought the bill for the opposite reason because they either felt that they would lose their exemption under the Architect's Registration Law or they just did not want engineers other than Civil Engineers exempted from the registration Law.

"The remainder of our bills cleared the House Committee with the exception of the bill which would have removed the exemptions for engineers in government. That bill was killed in the committe because the members felt that it would cost too much money to hire competent or registered personnel to do engineering work.

"Once our bills were placed on the calendar for floor action the telephone company became concerned that their pocket books would be damaged if they were forced to hire registered personnel. The bill that they voiced the greatest objection to was the one which would repeal the long established practice method of registration, however, later they decided to fight our entire package since they were spending a small fortune anyway. The telephone company did prove to be extremely effective because when our bill to establish a Code of Ethics hit the floor (a bill that no one would ordinarily oppose) we were defeated soundly. During the floor fight which Representative Lottinger had to wage almost singlehandedly, statistics were used and abused by the opponents to make it look as though LES represented only a few engineers and that the vast majority of the profession was anti-LES and opposed our package. It was for this reason that we felt it imperative to take a mail ballot of all of the Registered Engineers in the State of Louisiana. The response to our mail-out was outstanding though too late to aid in passing our bills.

"The following is the result of our balloting:

		For	Against
H.B. 976	Repeal Long Established Practice	3067	393
H.B. 978-980	Require 16 hour exam	3021	332
H.B. 981	Repeal exemptions	2672	662

"The only sparks of offensive success came in connection with the re-enactment of our sewerage grant supplement bill (Act 171) and with the Land Surveyors Program. LES supported the entire surveyor's program and were successful in passing H.B. 636 (which repealed antiquated portions of the old Parish Surveyor Statutes) also the surveyors passed H.B. 634 which provided the surveyors with a lien law to aid surveyors in collecting their fee.

"LES effectively, defensively, and directly aided in killing a number of bad bills. LES combined with the Medical Profession and others to fight and kill Senate Bills 640 and 699 which would have consolidated our Board of Registration within the Department of Occupational Standards. The LES opposed the Architects and Engineers Selection Bill after it was amended to require competitive bidding. LES opposed H.B. 205, 206, 207, 208 and 209 which would have declared hold harmless clauses illegal and helped kill it. We opposed SB. 24 which would have arbitrarily fixed registration fees at $100 per year. LES persuaded Senator Nicholson to withdraw S.B. 122 which would have created a Board of Registration for Safety Engineers.

"I have written to a number of legislators asking their opinion as to what specific areas LES should work on in the future to enable us to represent our profession more effectively. I shall make those responses available when received.

"It is my observation that the thing that hurt our program the most was the fact that a few active opponents were able to make the profession appear extremely fragmented.

"At the committee hearings we constantly asked the committeemen to view our bills in the light of what is best for the common good of all the people of Louisiana, not merely what is good for engineers. The legislators at the hearings were swayed by our argument and passed most of our bills out of committee, however, once they hit the floor the issue became what do the engineers want, with little or no thought as to what is good for the state. As you may recall in November and December 1971 we attempted to poll the profession on each of our bills. Though all of the proposals were favored in that poll, only approximately 400 engineers responded. The most

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decisive mandate was the proposal to eliminate the then existing registration exemptions and that vote was 285 for and 112 against.

"Opponents to our package said there are 12,000 registered engineers in Louisiana and only 285 in favor of these bills. (Apathy on the part of the Profession in the past robbed us of the ammunition to refute that argument.) The latest mail ballot referred to previously signified to me an awakening of the profession and also that LES has the confidence and support of the profession in general.

"My suggestions to the next legislative committee are:

"1) Start now to unite the Engineering Profession in a concerted effort toward the common good.

"2) Work to educate the legislators to the structure and purpose of each of the engineering societies and in particularly to the fact that LES does in general have confidence of the entire profession and the interest of the profession and public at heart."

Motion by Mr. Heller, seconded by Mr. Hogue "that L.E.S. express a vote of thanks to Chairman Carl Heck, Jr. and the legislative committee for its work during the past session." Motion carried.

Membership Committee Report—Chairman Al Badeaux expressed enthusiasm for the coming year. The following membership quotas were assigned each chapter:

Bayou	10	Monroe	18
Alexandria	15	Baton Rouge	48
Lafayette	15	Lake Charles	12
New Orleans	85	Shreveport	24

Ethics Committee—Chairman Jim Meyer stated that the committee is organized and will meet in Alexandria at the Planning Conference. Reports to the Board will be made as action is taken.

Insurance Committee Report—Mr. Cressy, chairman of the Insurance Committee, reported that the reply to the survey to determine interest was excellent. Over 750 members have expressed an interest in the program.

Motion by Mr. Hair, seconded by Mr. Cressy "that L.E.S. proceed with the auto insurance program for its members." Motion carried.

Mr. Cressy stated he would contact Gilsbar, the insurance consultants, and reply to the 750 inquiries. Mr. Cressy stated he would keep the Board informed.

Request for Mailing Labels—Motion by Mr. Cressy, seconded by Mr. Heroy "that L.E.S. furnish mailing labels of its membership to L.S.U. to be used in forwarding information on the engineering management program course." Motion carried.

L.E.S. Audit—Motion by Mr. Ewing, seconded by Mr. Battle, "that L.E.S. retain the firm of Gus Gonzalez—CPA to audit the financial records of the Society." Motion carried.

Action on L.E.S. Constitutional Changes—Mr. Brown reported that of the three proposals submitted to the general meeting of the Society, two were tabled and one adopted with amendments. (See minutes of general meeting.)

Motion by Mr. Hurstell, seconded by Mr. Theis, "that the Society proceed with ballots to the membership on the proposed changes." Motion carried.

Discussion of Article in LOUISIANA ENGINEER—President Brown read a letter requesting that an article on the legislative session be retracted.

Motion by Mr. Heroy, seconded by Mr. Cressy, "that Mr. Cappel be invited to appear before the Board and state his case for informal discussion." Motion failed.

Motion by Mr. Hair, seconded by Mr. Heroy, "that Mr. Cappel be advised that the article in the July issue was not action of the Board, but that of the Legislative Committee, published by the publications committee and not officially approved by the Engineering Society Board." Motion failed.

Motion by Mr. Hurstell, seconded by Mr. Cressy, "that the letter be mailed to the Board and the matter be discussed at the next Board Meeting." Motion carried.

PEPP Resolutions—Motion by Mr. Meyer, seconded by Mr. Cressy, "that the rules be suspended to consider the PEPP request, given in the earlier report, concerning the upcoming constitutional convention." Motion carried and the rules were suspended.

Motion by Mr. Meyer, seconded by Mr. Cressy, "that the motion stated in the PEPP report contained herewith be adopted and L.E.S. attempt to get one engineer appointed to the convention." Motion carried.

The meeting adjourned.

The next meeting of the Board will be held Sept. 16th in Alexandria.

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LOUISIANA ENGINEER

December, 1972

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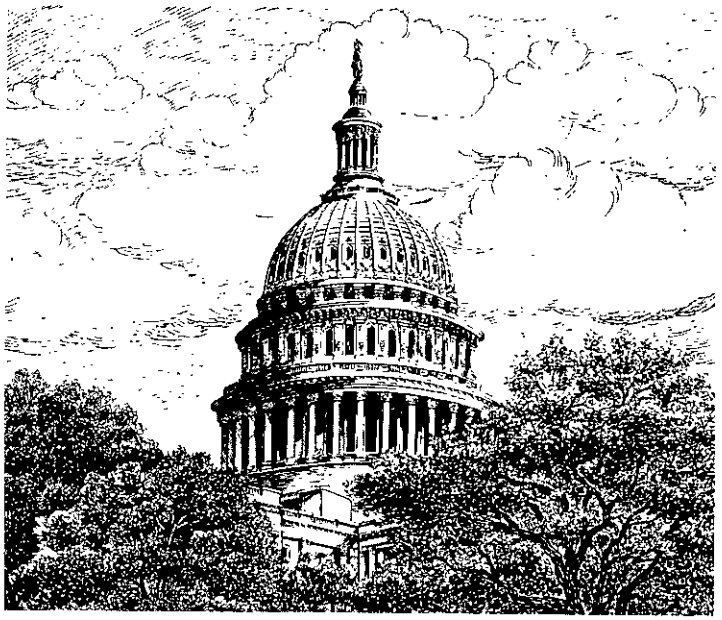

Architect-Engineer Selection Bill Becomes Law

The White House announced on October 27 that President Nixon had signed into law H. R. 12807, known as the "Brooks Bill." Following House passage on July 26, the Senate on October 14 passed the bill, though attempts were made to either kill it or maim it. It took its first hurdle with a vote of 44 to 8 against an amendment which would have limited its life to two years. Its next obstacle, a motion to recommit it for further consideration, was defeated with a vote of 50 to 6.

The bill was passed over the unprecedented opposition of the General Accounting Office, the Office of Management and Budget, the Department of Justice and the committee chairmen of both the House and Senate Government Operations Committee. To the other side, this legislation was strongly endorsed by every practicing architect and engineer in the United States and by all knowledgeable A-E contracting officers in the Federal government. The General Services Administration, for example, presented testimony supporting the legislation.

The bill clarifies and codifies existing practices of the Federal government in procuring engineering and architectural services. Under present procedures, which have been used successfully for at least 30 years, Federal agencies invite expressions of interest in performing work from as many A-E firms as may wish to submit proposals. These highly competitive proposals outline each firm's experience, qualifications, manpower, specialized techniques, equipment, availability to job site, technical expertise, awards, and similar factors which agency personnel can compare and evaluate. Usually five or six firms then are selected for subsequent interviews and are given an opportunity to discuss their qualifications and the proposed scope of the project, including various approaches to its accomplishment, and to ask questions of the contracting agency.

Following these interviews the agency, through a special committee of professionals, ranks firms in the order in which they feel the A-E's can and will best perform the work. The top-ranked firm is then called in to negotiate a contract, and when there is agreement upon compensation which must be fair and equitable to the government, a contract is negotiated. If not, negotiations are terminated and the next ranking firm is called in. This method of procurement has been highly successful, since the government gets the job it wants at the price it wants. To try to reduce design costs even one-half of one percent through the opposite method, that is, competitive bidding, could easily result in added construction cost by virtue of hasty or less than complete services rendered.

Government and industry alike feel strongly that competitive bidding by design professionals is simply not in the public interest, whereas the traditional method which the bill backs will hold down federal construction costs, help assure quality performance of A-E services, provide better government facilities, and will increase competition, on the basis of qualifications, for available work.

To reduce the problem of A-E procurement to its least common denominator would be to say simply that any reduction in the amount of the engineer's or architect's fees which is based upon competitive price could, and most probably would, come out of the quality of the work. Further, the traditional system, as outlined in the Brooks bill and agreed upon by the House, the Senate and the President of the United States, keeps the highly ethical design professional out of the clutches of the less responsible members of the profession.

COVER

The Officers, Board of Directors and Staff of the Louisiana Engineering Society and the State Board of Registration wish you a Merry Christmas.

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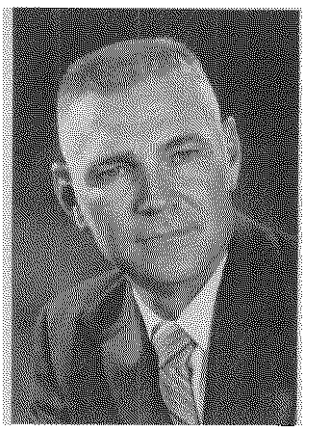


LES President
Hoyt W. Brown, Jr.

It is hard for me to realize that by the time you read this half of my year as president of L.E.S. will be gone, and there are so many things to accomplish that we had set as goals. It is a humbling experience, for one realizes that worthwhile things only come from the sincere combined efforts of many. A wise man named Johnny Vogt once told me that one could fuss and raise hell coming up but when you became the President you needed the continued cooperation from others and unification to accomplish any worthwhile goals. Possibly a resume of some of our activities over the last six months will be of interest. The New Orleans chapter held a round table discussion on the legislative program and invited some of the capable opposition to participate. Much progress has been made towards finding an acceptable program of legislative changes for all of our engineers. Let's hope each chapter will hold such a meeting this year so we can have a head start with the desired changes approved and publicized with yet a full year to convey our message to the Legislature and the Constitutional Convention. Perhaps it is also significant that with the agreed upon changes in the Code of Ethics, not one complaint has been brought before the Board this year.

I guess everyone has some interest that is closer to their heart than others, and mine has been engineering education. So what has been happening regarding the implementation of the LES study report on engineering education in Louisiana? First, the Council of Engineering Deans has met twice and entered into spirited discussions on mutual problems. The Deans also listed as an objective the implementation of the L.E.S. report, including acting as consultants to the Coordinating Council for Higher Education on engineering education. I hope each of you saved your copy of the June 1971 LOUISIANA ENGINEER that carried this guide for excellence in our engineering schools. Our achievements within the engineering schools have not been as spectacular as we would hope but we have put together a few building blocks that form a real firm foundation for future progress.

The most significant steps to date in this direction have come from U.S.L. This school, under the new leadership of Dean Jim Reeves, has dropped any future engineering doctoral ambition and has pushed its master's degree curriculum to a consolidation into two professional degree type programs, namely the Master of Science of Engineering System and the Master of Science of Engineering Management. Further, its undergraduate curriculum has been rearranged so that a base course of 2½ years is common for all engineering students.

It has become apparent that my estimates of the 2 + 2 engineering technology program of Delgado, SUNO and LSU NO have been overly optimistic. This necessary program has been sidetracked by faculty and administrative politics at LSU NO. However, there have been recent developments here that hold real reason for hope. LSU Baton Rouge has instituted the Engineering Technology program as well as aggressively pursuing its responsibilities as a leader in continuing engineering education. Hopefully they will soon use the same initiative on the reorganization of the so called pre-engineering programs at the Shreveport, Alexandria and Eunice branches. Louisiana Tech seems to have sincere reservations regarding the professional engineering school concept. Hopefully they will work towards this goal and give direction and leadership to this worthwhile concept. Fortunately this concept is fluid so that it can be molded into its most advantageous form for the state as a whole.

Remember, the report stated "Louisiana has the resources to maintain a high quality program in engineering education." At present these resources are not being effectively focused and are in danger of being dissipated in a diffuse and low level program. This trend can be reversed and a positive direction established and maintained. Let's all push this effort—the results will be rewarding as engineers, parents, employers, citizens, and of course tax payers.

Louisiana's
SUPERDOME

A favorite new pastime with New Orleanians is watching the huge Louisiana Superdome being built.

The dome watchers have had to use more ingenuity than needed by routine sidewalk engineers. The site of the Superdome has no convenient sidewalks, so the dedicated dome watchers have learned to make good use of windows of downtown buildings, and to use the automobile.

Many dome watchers get in fast looks while coming and going on the expressways, and do more leisurely viewing on weekend drives.

Superdome Director Ben Levy says the rewards from dome watching are many. The unusual shape, the huge size, and the many unique features of the Superdome make for good gazing and supply material for hours of idle conversation.

Since the Superdome is now reaching for the sky and beginning to be a major factor in the New Orleans skyline, Mr. Levy felt our readers might like to have some information on the Superdome, and perhaps a brief idea of the schedule of what will happen in the future. This could be used to dazzle the dome watchers, and for a display of inside information on the gigantic project.

The foundation of the Superdome is built on pilings, of both wood and pre-stressed concrete. If all the pilings under the Superdome were laid end-to-end, they would extend for 83 miles . . . from New Orleans to Baton Rouge.

The main support pilings are in clusters around the perimeter of the circular sides, and extra strength is built into the circular sides of the building. This is similar to placing a cereal bowl upside down on a circle of pencils on a table. Pull out one or two pencils, and it does not affect the bowl. A failure of pilings or even a cluster of pilings should have no major effect on the Superdome.

Mark Carrigan is Construction Coordinator for the Superdome, and he insists that many features of the project are unique simply because of their size or magnitude. For instance, he says all buildings have electrical wiring, but the Superdome has 400 *miles of electrical wiring!* There have been many dome roofs, but this one is 680 feet in diameter and reaches a height of 273 feet.

Remember that the Superdome is a completely enclosed building with a solid roof. The sides of the building will be anodized aluminum sheeting of a new penny copper color when in the sunlight. In the shadows it gets dark like an old penny. But the roof is not copper. It will be made of an industrial compound similar to neoprene, and will be off-white in color.

Inside, the Superdome will be lavish when compared to other stadiums. It will be heated and air conditioned, with theatrical style seats, upholstered through ten rows of the upper deck. Above that are theater seats, but of plain plastic.

The air conditioning, all 9,600 tons of it, is of the chilled water type with individual controls for inside rooms. The heating is gas fired. The air conditioning "stays on" during the summer. The full tonnage is needed only when the Superdome is packed with people in the summer, but if the

Col. Mark Carrigan

Describing the Superdome, Executive Director Ben Levy says, "Imagine a carpeted room big enough for a football game and almost 80,000 fans. Add air conditioning and comfortable seats and you have the basic idea." Mr. Levy could have added "a room with overhead television."

air conditioning were turned off in the summer, moisture would condense under the dome and actually drip or "rain" inside the building. Also, if the Superdome heated up, it would take about 10 days to cool it down to a comfortable level.

The central arena will be at ground level, but the main entrances are at plaza level. Ground level seating stands move in and out to change the Superdome's configuration for different events.

Under the dome room will be a lighting system to enhance any activity in the Superdome. A mixture of incandescent and halide systems, it can range from total darkness to about 150 footcandles on the arena floor. Theatrical spotlights and floodlights will highlight theatrical productions.

Most unusual among the Superdome features will be a $1.3 million giant screen television system not available in any other stadium in the world. Suspended from the ceiling, directly over the playing field, will be a six-sided gondola, with each side a full color television screen 26′ wide and 22′ high in size.

This giant screen TV system will give the fans the things they have grown accustomed to on home television . . . instant replay with slow motion and super close-ups. It can be used also for closed circuit television of events from around the world.

Construction Coordinator Mark Carrigan, an honor graduate engineer from LSU and a retired colonel in the U. S. Army Corps of Engineers, lists other features of the Superdome.

He emphasized that the building is a state owned public facility supported by government financing, which he labels "a trend of the future for such projects."

The Superdome is a multipurpose building, to be the home for sports, entertainments, conventions and trade shows. In addition, it will have restaurants, cocktail lounges, shops, offices, and even a medical clinic. There will be attached garages with spaces for 5,000 cars, with thousands of additional parking

Continued on page 10

BERNARD B. LEVY
Executive Director
Louisiana Superdome

Bernard B. Levy was appointed Executive Director of the Louisiana Superdome on February 18, 1972, bringing to the position a sound established reputation for fiscal responsibility and mature experience in government service.

He is a native New Orleanian, born in 1909, and educated in New Orleans schools, including Warren Easton High School and Loyola University of the South.

He entered federal government service in New Orleans in 1939, later transferring to Atlanta and Dallas where he held highly responsible regional positions with the U.S. Department of Agriculture and the U.S. Office of Price Stabilization.

He joined the staff of the City of New Orleans in 1953 and held a series of civil service positions before becoming Chief Administrative Officer, the top administrative position in city government.

He is best known in New Orleans because of his service as Chief Administrative Officer for the city, and he held this position under two separate administrations.

He joined the staff of the Louisiana Superdome in 1971 as Director of Construction and Administration, and then became Executive Director..

spaces within a few blocks of the site.

The Superdome ties in to the fantastic growth of the Poydras Street area, and the entire central business district. In fact, it has been called a catalyst for this growth and expansion. Certainly it is a key element in the rapid growth of hotels in the city.

As far as a tourist attraction, the Superdome will be among the biggest both in size and pulling power. It is hoped it will do even more for New Orleans and South Louisiana than the Astrodome did for Houston. In a few brief years after the Astrodome was built, the number of tourists each year coming to Houston jumped from two million to seven million.

For a tourist and convention oriented city like New Orleans, the addition of the giant Superdome will be the frosting on the cake of the many existing attractions it now has.

Ben Levy loves to tell the banquet circuit, "Imagine one comfortable, carpeted room big enough for a football game and almost 80,000 fans. Cover the room with the world's largest clear span dome roof. Put in heating and air conditioning and theater seats, and then you have the basic idea for a Superdome."

Dome watchers are now wrapped up in the steel work going up. The steel network sides are about 160 feet high, and the two features atop the sides are a unique pre-stressed concrete gutter tub system, and a steel tension ring to which the dome roof will be attached.

The steel tension ring is of special high strength steel, and special equipment is used for welding. Each weld is X-rayed to check for any flaws. Not only will the tension ring support the roof, but it allows for expansion and contraction.

The towers going up in the middle of the area will eventually number 37, and they will support the lamella type roof during construction. Steel girders for the roof will start up any day now, and will be completed and attached to the sides by next spring. Then the towers will be removed, very slowly at first to let the roof settle into place.

While this is going on, work on the sides will continue and steel sheeting will be put up. The aluminum siding goes over the steel sheeting.

At the same time, pre-stressed concrete seat decking will be installed. After the roof is on and covered, and the sides covered, then the interior will be finished and the air conditioning installed.

LARKIN AGNEW NAMED TO STATE REGISTRATION BOARD

Larkin B. Agnew, State Conservation Engineer, has been appointed by Gov. Edwin Edwards to the Louisiana State Board of Registration for Professional Engineers and Land Surveyors.

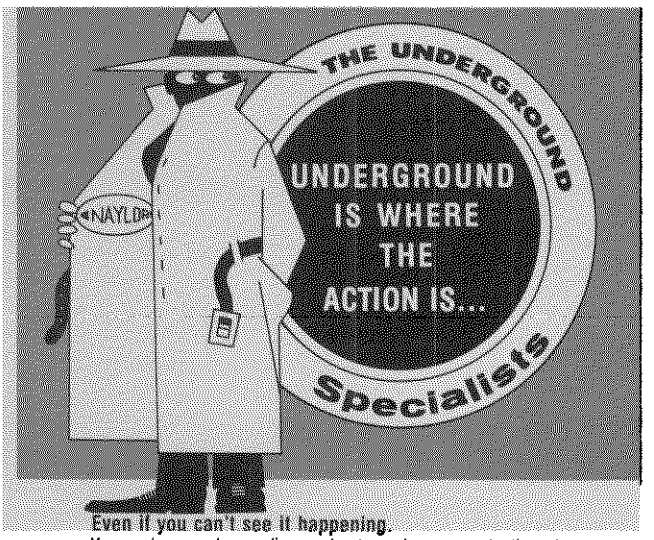
Agnew, a native of Mississippi and an agricultural engineering graduate of Mississippi State University, began his career in 1949 with the USDA Soil Conservation Service at Franklinton, La.

He has held the positions of Work Unit Engineer at Amite, Baton Rouge, and Benton; Area Engineer at Alexandria; Engineer on Red River Basin Studies Staff in Shreveport; Assistant State Conservation Engineer at Alexandria; and State Conservation Engineer at Alexandria. In his present position as State Conservation Engineer, he is responsible for the technical quality of all engineering work in all programs of the Soil Conservation Service in Louisiana.

A Registered Professional Engineer, Agnew is a member of the National Society of Professional Engineers, the Louisiana Engineering Society, the Soil Conservation Society of America, the National Association of Conservation Districts, and the Organization of Professional Employees of the USDA.

Agnew is a member of the American Society of Agricultural Engineers and past chairman of various committees of both the Southwest Region ASAE and the National ASAE. He is also a member and past chairman of the Louisiana Chapter of the American Society of Agricultural Engineers.

The new Board member is married to the former Bettie Sue Yarbrough of Baldwyn, Mississippi, and is the father of two sons.



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Proposed semi-high level vertical lift bridge over the intracoastal canal at Ellender Ferry Route

LOUIS A. GARRIDO, P.E.
Assistant Bridge Design Engineer
Louisiana Department of Highways

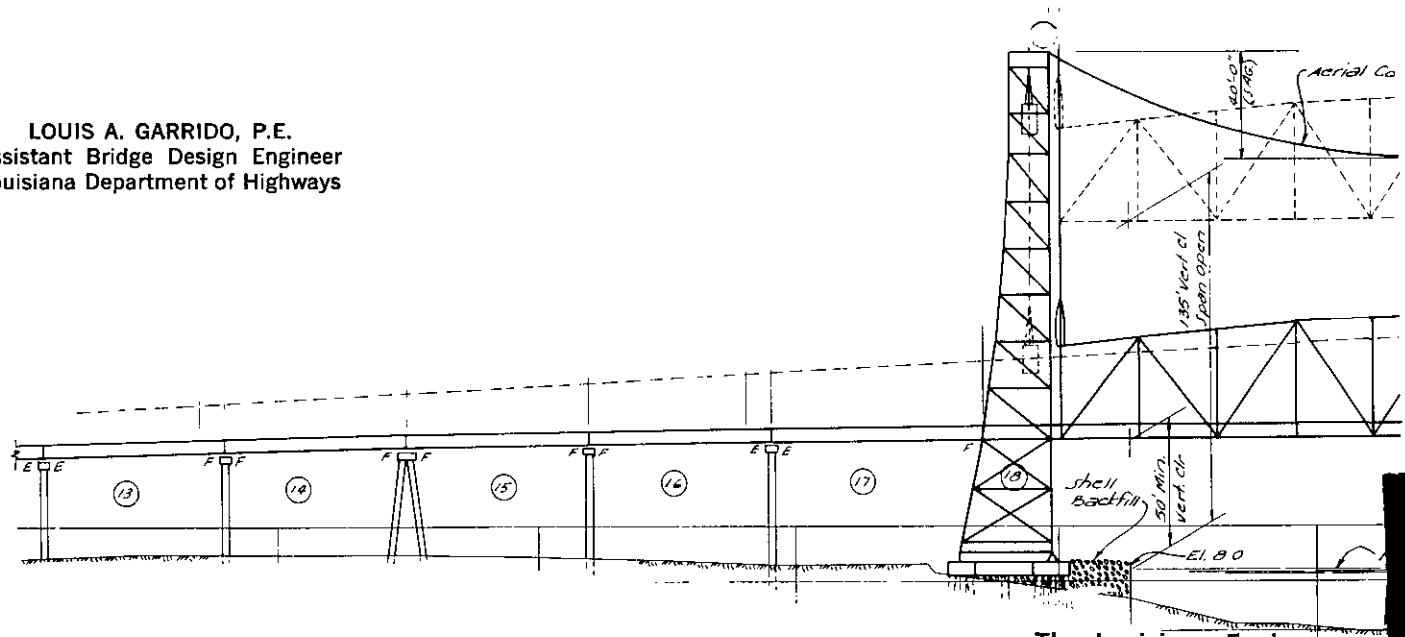
A most needed structure that will replace an existing and inadequate pontoon bridge across the Intracoastal Canal at Ellender Ferry, on Route LA 27 between Cameron and Lake Charles, will be advertised for bids in the early spring of 1973. This project will be part of an extensive hurricane evacuation program in the state of Louisiana, and will provide for the rapid flow of traffic from the coastal areas in Cameron Parish to the interior portion of the state during critical times of hurricane alert.

The new, impressive structure will have a semi-high level 300-ft. vertical lift steel truss span, resting on two 200-ft. high steel towers. The length of the truss span was chosen in order to clear the entire width of the canal at this location, and thus eliminate the necessity of expensive protective fenders that have in the past proven to be a continuous maintenance problem as a result of being frequently hit and demolished by the large and heavy barges using this waterway. The flanking span at each tower will be an 80-ft. welded composite span bolted to the tower at one end with the other end resting on steel shoes on a concrete cap bent. The remainder of the approaches consist of precast prestressed concrete beam spans resting on 24 inch square prestressed concrete pile trestle bents.

The new bridge carries two 12-ft. lanes with two 6-ft. shoulders for a total clear width of 36-ft. This width during evacuation from hurricane danger will offer two 12-ft. escape lanes in one direction and one 12-ft. lane in the opposite direction.

Vertical clearance for the span in the down position will be 50-ft. above high water elevation, thus permitting navigation of more than 80 percent of the waterway traffic without interruption of vehicular traffic. In the raised position, as stipulated by the Coast Guard, the vertical clearance above high water will be 135-ft. The Intracoastal Canal at this location is part of the Lake Charles deep water channel.

The lift span is a non-parallel chord Warren truss with verticals and is divided into 10 panels at 30-ft. each for a total length of 300-ft. center to center of end floor beams and lifting ropes. Trusses are spaced 40-ft. center to center, with depths of the trusses varying from 45-ft. at midspan to 35-ft. at the ends. Overhead clearance above the finish grade of the deck is 20-ft. The lift span is supported by 48 —1¾", 6 x 25 improved plow steel wire ropes, with the lifting heads for the ropes inboard the



trusses and providing for 12 ropes at each head. The total estimated weight to be lifted is 600 tons.

Shop welded H-type sections form the truss members with the exception of stringers and lateral bracing which are rolled wide flange sections. High strength steel of ASTM designation A441 and A588 is specified where their use is deemed advantageous, otherwise Structural Carbon Steel A36 is specified. Field and shop connections between members are with friction type high strength bolts conforming to ASTM A325.

The deck is a five-inch open grid floor welded to the stringers, and its weight is approximately 18 pounds per square foot.

There is no portal on the lift span. The wind from the upper lateral system is transmitted to the tower through the span guides. The wind load from the lower lateral system is delivered to the tower by means of the span shoes with the span down and through the span guides with the span raised.

The height of the towers from the top of the pier at ground level to the centerline of sheaves is 200-ft. The front columns are vertical and are in line with the lift span trusses, 40-ft. center to center. The rear columns are also 40-ft. on centers, and are parabolic rather than vertical. The distance between front and rear columns is 35-ft. at the base and 15-ft. at the top.

The front and rear tower columns are welded box members with solid webs and perforated cover plates, and have the same braced points both longitudinally and transversely. The columns are of Structural Carbon Steel A36.

The front columns have a deep bracket that will support the lift span under full dead load, live load and impact. This provision was made to maintain vehicular traffic in case of repairs to the counterweight or lifting ropes.

Sheaves at the top of the tower are mounted on steel pedestals supported by deep longitudinal box girders. Two box girders are required for each sheave.

Longitudinal and transverse bracing is provided throughout the towers with rolled wide flange sections. In addition they are braced in a horizontal plane at their top and at each panel point below the finish grade of the bridge.

The tower span has a concrete deck supported on steel stringers.

The counterweight consists of a steel box which connects to the lifting heads. The box is filled up with heavy concrete with a minimum weight of 330 pcf, thus keeping its size within tolerable dimensions. Each counterweight has a supporting device from the top of the tower, allowing the concrete to be poured at the upper limit of its travel. This device will permit in the future to change ropes or repair the counterweight with the span down.

Balance chains are required to offset the imbalance of the ropes when the span is raised.

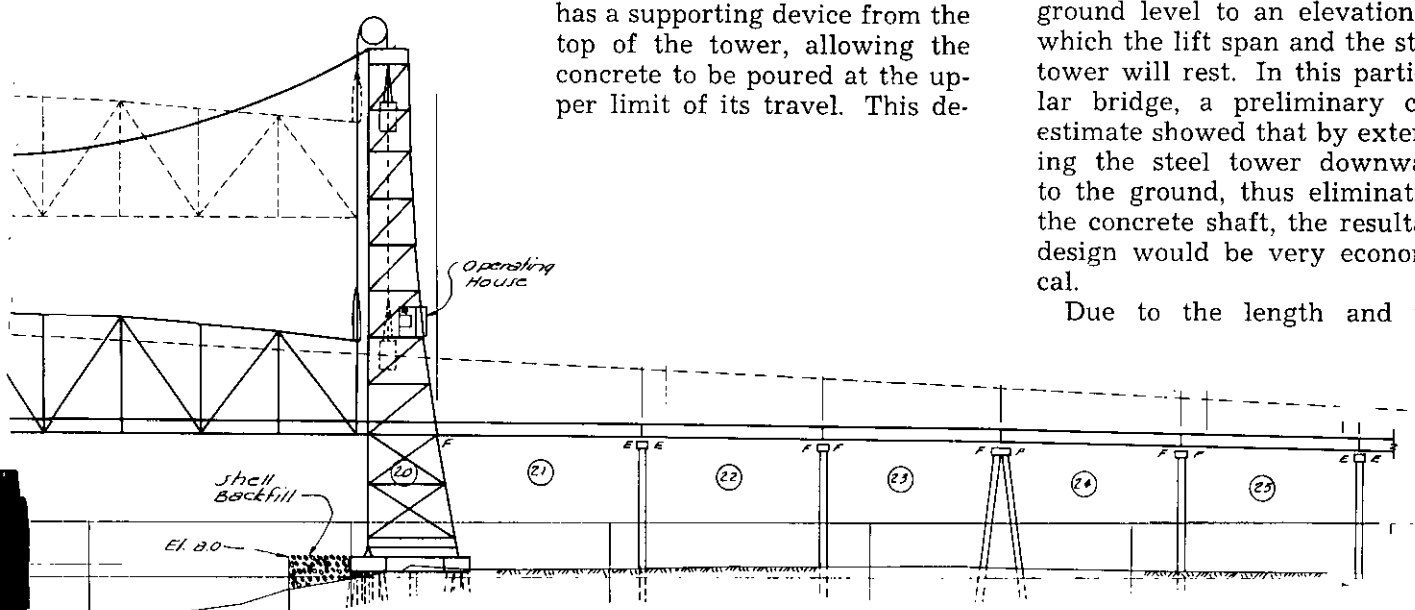
Extending the full height, stairs are provided at both towers. Additionally, platforms are provided for easy access at each level where inspection and maintenance of mechanical and electrical equipment is necessary.

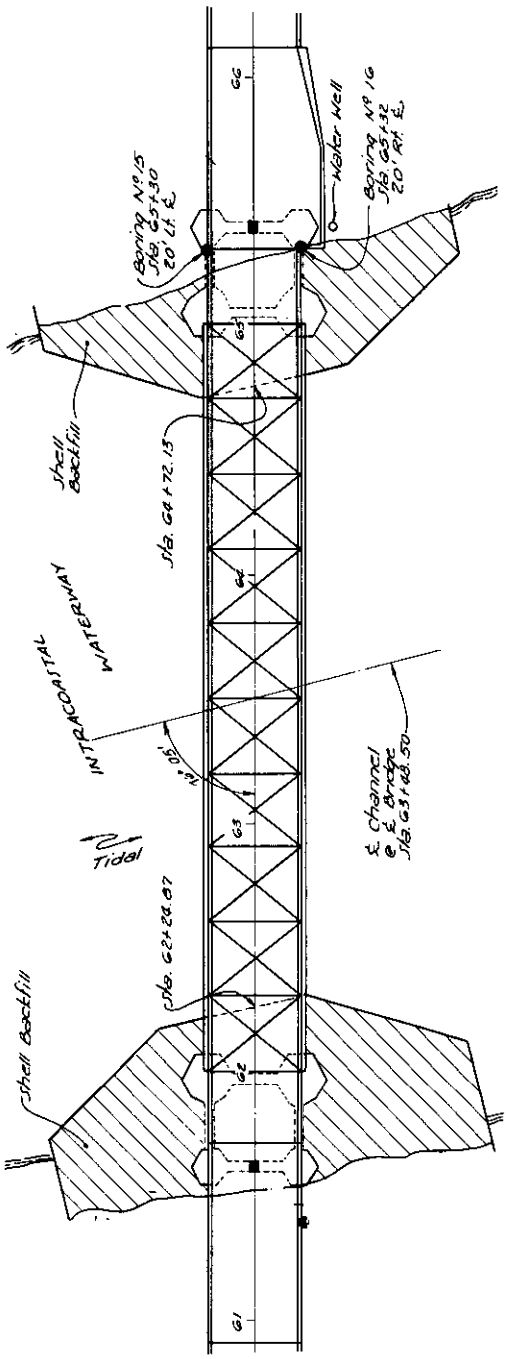
An operating house of reinforced concrete is located above the portal within the tower. The specific location of the house is 35-ft. above finish grade and approximately 85-ft. above ground level.

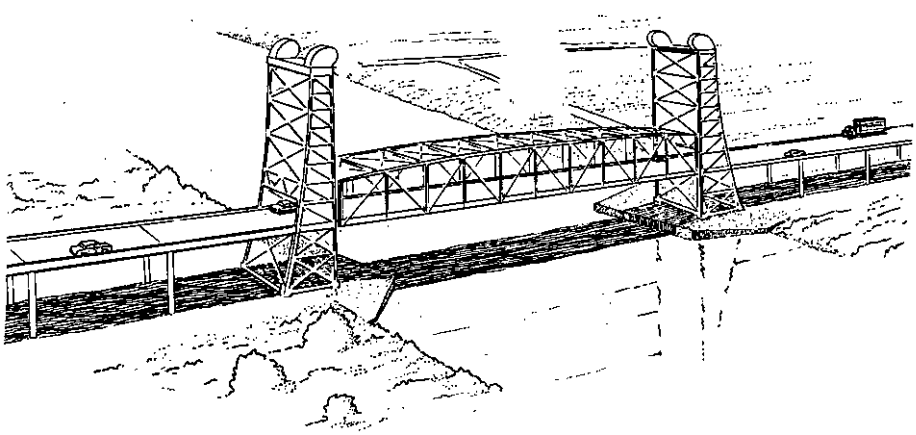
Each tower column rests on a reinforced concrete footing with 24 inch square prestressed concrete piles. The four footings of each tower are tied together by reinforced concrete struts to form a bridge pier. To prevent scouring of the ground under and adjacent to the pier, there is a protective steel sheet pile bulkhead faced with timber wales and backfill with shell. This enclosure forms an island and serves as cofferdam during pouring of the concrete pier. Any barge colliding with the bulkhead will hit the timber wales rather than the steel sheet pile and eliminate the possibility of a dangerous spark.

Usually in a structure of this nature, a large reinforced concrete shaft is provided above ground level to an elevation in which the lift span and the steel tower will rest. In this particular bridge, a preliminary cost estimate showed that by extending the steel tower downward to the ground, thus eliminating the concrete shaft, the resultant design would be very economical.

Due to the length and the







height of this structure, provision has been made for the parking of maintenance vehicles outside the clear roadway.

The bridge is to be operated by electric motors located at the top of the tower which, through reduction gears, drive transverse shafts. At the ends of these shafts, pinions actuate ring gears which are an integral part of the sheaves. The sheaves, through the ropes, raise and lower the span. Four sheaves having a 10½-ft. rope pitch diameter are required. The normal operating time is two minutes.

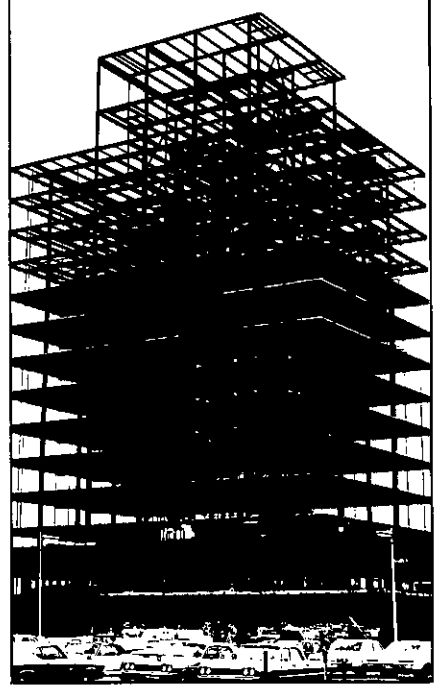
Electric service will be 480 volts, three phase, 60 cycles with all control circuits operating on 240 volts through a 480 x 120/240 volts, 25 KVA transformer. The bridge will be operated by a power selsyn system consisting of four 40 hp motors, two of which will serve as traction motors while the other two serve as power selsyns. The purpose of the selsyns is to prevent the bridge from skewing longitudinally. Control of the main motors will be magnetic and the auxiliary motor/generator set will be either manual or magnetic.

The approach spans superstructure are simple supported precast prestressed concrete girder spans with a cast-in-place concrete deck. Each span has five AASHO Type III girders spaced 7'-6" on centers and 70-ft. long.

The substructure for the approach spans consists of capped pile bents with 24 inch square prestressed concrete piles, the length over diameter ratio from pile cut-off to ground line being held to a maximum of 20. The maximum design load for these piles is set at 90 tons. The design load per pile is to be carried by skin friction and with a factor of safety of three.

The Ellender Ferry Crossing at the Intracoastal Canal will serve both automotive and marine traffic efficiently and safely under any weather conditions. It is anticipated that this project will be completed by late fall of 1975.

PROFESSIONAL ENGINEERS IN CONSTRUCTION



E. E. Moncla

On November 10, 1972, the Louisiana Engineering Society Board of Directors unanimously approved organization of Professional Engineers in Construction, which is being promoted by the National Society of Professional Engineers.

Once again, Louisiana is one of the first to adopt such a section officially. The rules of government and operation, as well as the slate of officers, were approved by the board of directors.

Prior to organization, inquiries were sent to professional engineers to determine interest in the functional section. With favorable response, a nominating committee selected candidates for chairman, vice chairman, and secretary. With an almost 100 percent return of ballots, the following have been elected and approved by the board of directors to serve for the remainder of the fiscal year:

Chairman: E. Raymond Desormeaux, Lafayette Chapter

Vice Chairman: E. E. "Buddy" Moncla, Monroe Chapter

Secretary: A. Webb Hart, Jr., Monroe Chapter

The constitution and bylaws of the Society provide that the chairman of this new section become a member of the Board of Directors, thereby allowing Professional Engineers in Construction participating and voting privileges in all activities involving the Society.

The objectives of the section are to concern itself with advancement of the public welfare and matters of mutual welfare of engineers in construction in their service to the public by

. . . Activities related to development of public policy.

. . . Establishment and maintenance of high standards of competence and ethical conduct.

. . . Strengthening the role of engineers in construction in support of the free enterprise system.

. . . Cultivation of public appreciation of the work of the engineer in construction.

. . . Promotion of professional development and economic advancement.

. . . Improvement of engineer-management relationships.

. . . Encouragement of participation in community and civic affairs.

Concerning present and future environmental, pollution, and safety guidelines and requirements, it is further anticipated that PEC will become an ideal vehicle for the furtherance of these items as needed for the public welfare. With representation statewide from all technical branches who are attuned to city, parish, state, and federal requirements, this section becomes an ideal sounding board for new regulations, problems, and new construction design and techniques.

ENGINEERING TECHNOLOGY AT LOUISIANA TECH UNIVERSITY

JOE R. WILSON, P.E.

In recent years the trend in engineering education has been away from application and toward more science and mathematics. As the engineer has become more of a scientist a gap has widened between the craftsman and the engineer. This, together with the increasing complexity of our industrial processes, has created a demand by industry for a new type of specialist who has a knowledge of science and engineering fundamentals as well as ability for practical application with the tools and techniques of his particular discipline.

Louisiana Tech University is developing engineering technology programs to provide these technically trained individuals who are basically applications oriented. These technologists and technicians can work with engineers and scientists or they can assume independent responsibility to organize men, materials and equipment to design, construct, operate or manage technical projects.

Before looking at some of Tech's programs, let's review the current definitions which have been adopted by the Engineers Council for Professional Development:

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind.

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer at the end of the spectrum closest to the engineer.

Engineering Technician is the term applied to the graduates of the associate (two-year) programs in technology.

Engineering Technologist is the term applied to the graduates of the baccalaureate (four-year) programs in technology.

Louisiana Tech's program is designed to educate technicians and technologists who can assist engineers or provide independently the support for engineering activities. In contrast to engineering education where capacity for original design is the central objective, our technology education develops the capacity to achieve a practical result based on engineering concepts or designs. The graduate will possess a variety of skills as well as practical and theoretical knowledge to enable him to get things done.

In 1968 the Department of Civil Engineering first offered the four-year curriculum leading to Bachelor of Science in Construction Technology as an optional program in the architectural curriculum. The curriculum includes 126 semester hours and is a balanced mixture of the humanities courses for general education, of technical courses for understanding the physical aspects of construction and of business administration courses for introduction to management. Included are 21 semester hours of electives so that the student might delve more deeply into areas of interest to him. For example, many students elect to attain proficiency in land surveying. Today there are 51 students enrolled in Construction Technology to prepare for a career in the construction industry.

A two-year curriculum in Land Surveying Technology was also first offered in 1968. This program is designed to meet the educational requirements for registration in Louisiana as a Land Surveyor, and also includes a mixture of humanities and business administration courses to provide a background for development as a small businessman. A total of 62 semester hours of course work is required for the Certificate of Proficiency in Land Surveying.

In 1972, the Department of Civil Engineering has initiated its third technology curriculum leading to the Associate of Science degree in Water and Wastewater Technology. Sixty-one semester hours of course work which can be completed in six quarters will provide the student with broad basic knowledge in the diverse areas of applied sanitary engineering which relate to water and wastewater. Graduates of this curriculum will find many job opportunities such as: treatment plant operator for municipality or industry; design technician or engineering aide for consulting engineer; regulatory technician for local, state or federal agency; sales and service or research and development technician for water and wastewater products; and as construction technician for contractors. Most of the course work is either required or optional in the Civil Engineering curriculum, giving the student the option of continuing for the BSCE degree with very little loss of credit.

A two-year curriculum in Environmental Control Technology is currently being considered for implementation to provide technicians for the land, water and air pollution control fields.

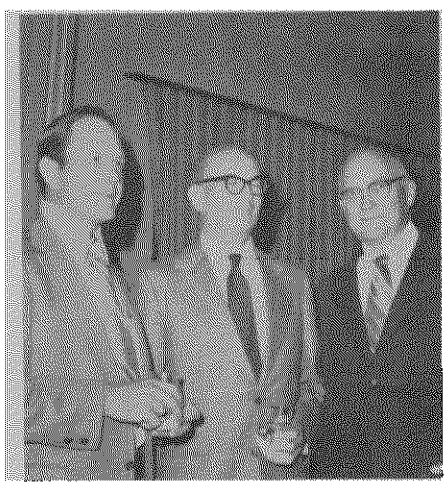
The Department of Electrical Engineering inaugurated its first technology curriculum in 1972: Bachelor of Science in Electro-technology. Electro-technology includes the areas of computers, electrical power, communications, instrumentation and control systems. The 127 semester hour curriculum combines lectures with coordinated laboratory work so that graduates will be capable of performing the technical tasks demanded in a wide variety of commercial and industrial positions in the rapidly expanding electrical-electronics technology field.

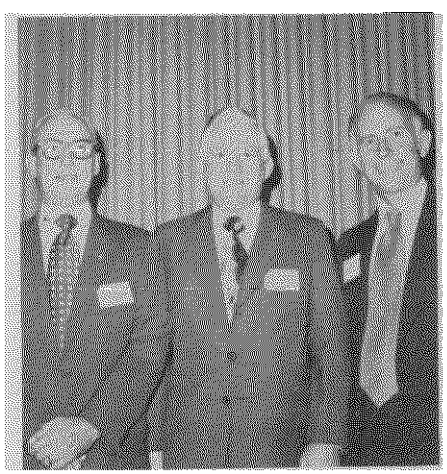
Electro-technology classes and laboratories are in Nethken Hall, a modern building with ample equipment including two digital and two analog computers. The Water and Wastewater Technology laboratories use the recently completed J. T. Folk Memorial Laboratory, an outstanding facility for air and water analysis. All technology students will engage in "hands on" operation of the equipment in these laboratories.

Southwest Region Meeting

NSPE Director from Louisiana Waldemar S. Nelson, left, talks with Ennis Bogle, Executive Secretary of the Texas Society of Professional Engineers, and NSPE Director Paul Robins.

LES Executive Secretary Gerald Simmons with Waldemar S. Nelson and Leo M. Odom.





Southwest Region Vice President Delbert Schmann, left, NSPE President James F. Shivler, and Leroy Clubertson of Oklahoma.

Some of the ladies in attendance were, from left to right, Mrs. James Janssen of New Orleans, Morlynne Wood of Tulsa, Mrs. George Heller of Monroe, and Mrs. Leo Odom of Baton Rouge.

The Louisiana Engineering Society was well represented at the Southwest Regional Meeting of the National Society of Professional Engineers in Oklahoma City Oct. 26-28, 1972.

President Hoyt Brown and Executive Secretary Gerald Simmons were featured speakers on the program, and Leo Odom, Southwest Regional Vice President for Professional Engineers in Private Practice, James Janssen for Professional Engineers in Industry, and Frank Heroy for Professional Engineers in Government presided over sessions of their respective practice sections.

Fred C. Culpepper, Jr., L.E.S. Vice President, spoke on a panel on "Federal Government Contracts for Engineering Services," and participated in the P.E.I. meeting and in the organizational meeting of the Professional Engineers in Construction.

Waldemar S. Nelson and Frank M. Heroy, Jr. represented the Louisiana Engineering Society as N.S.P.E. directors from Louisiana. George Heller of P.E.I. and Ronald Cressy, Arthur DeFraites, Sr. and Arthur DeFraites, Jr. of P.E.P.P. participated actively in the seminar on "Quality Control in the Consulting Engineer's Office" conducted by Paul Genecki and Gerald W. Farquhar of Victor O. Schinnerer Company.

Individual reports of various practice section activities are given elsewhere in this issue.

Private Practice

A program sponsored by Professional Engineers in Private Practice was held October 26th in Oklahoma City, at the NSPE Southwest Regional Meeting. The program was opened by Leo M. Odom, P.E., vice-chairman, NSPE/PEPP Southwestern Region, with a panel discussion on "Federal Government Contracts for Engineering Services." Comprising the panel were Fred C. Culpepper, Jr., P.E., Louis A. Bacon, P.E., and Myron DeGeer, P.E.

DeGeer's opening remarks concerned the steps that Consul-

Continued on page 20

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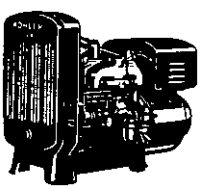

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Southwest Region Meetings continued

tants should take to be considered for federal contracts; he also described in detail the method of selection used by federal agencies. His statements were applicable to all federal government contracts.

Bacon discussed the preparation and submission of Form 251, suggesting that photographs, brochures and other similar material be sent along with the form, and that it be regularly updated when on file with governmental agencies. He then spoke briefly on the Brooks Bill, recently signed by President Nixon, and discussed the definition of overhead. His final suggestion was that Consultants try to get on board reviews and also look into performing construction management services on federal contracts.

Culpepper noted that, while there is generally the same high degree of professionalism in negotiations for federal contracts, there are some differences between fee schedules used by the federal government and normal engineering fee schedules. There was difficulty, he stated, in keeping proposals within the 6% legal limitation for fees, particularly on smaller jobs. He recommended that Consultants make personal appearances at the office of the contracting agency, and that they very clearly identify to the agency what their area of interest is. He also suggested that the Consultants set their shops to provide the capabilities that the government agency may require.

Odom then introduced Robert L. Nichols, P.E., Chairman, NSPE/PEPP, who spoke briefly on the "Requirement that all Members of State PEPP also be Members of NSPE/PEPP Section."

William J. Collins, Jr., P.E., discussed "Income-Benefits and Working Agreements of Employees in Private Practice Firms." This discussion involved recommended income benefits, published by the Board of Directors of NSPE in the Professional Engineer magazine. Collins remarked that fringe benefits were becoming more important to employees. Typical fringe benefits include group life insurance, accidental death insurance, travel insurance, health care insurance, workmen's compensation, social security, pension and retirement, and profit sharing annuities. Fringe benefits should be clearly spelled out in writing to employees at the time of their employment, according to Collins.

Paul L. Genecki and Gerald W. Farquhar of Victor O. Schinnerer & Co. spoke on "Quality Control in the Consulting Engineer's Office." Highlighting the discussion was a brief history of the problem of professional liability for engineers. Genecki stated that the situation has grown to the point where there are approximately 180 new claims per month, of which about 65% end up in litigation or arbitration.

Farquhar wound up the discussion, and the meeting, with a description of the program designed to get information to the A-E on claim experience.

Engineers in Industry

The highlight of the year for the Southwest Regional PEI Section was the regional meeting held in Oklahoma City on October 26, 27 & 28. The PEIs and the other practice sections held section meetings on the first day. A total of 30 persons attended the PEI sessions, representing Arkansas, Colorado, Louisiana, New Mexico, Oklahoma and Texas, six of the eight states in this region.

The PEI meeting was designed along the lines of answering the perennial question "What does NSPE do for the individual engineer?" The first talk of the day was by Gerald A. Simmons, Executive Secretary of the Louisiana Engineering Society and dealt with "Successes and Failures in Louisiana's 1972 Legislative Efforts." This was followed by Donald M. Ledbetter, P.E., Chairman, NSPE-PEI, on "Guidelines for Professional Employment of Engineers." Then Hoyt Brown, P.E., President of the Louisiana Engineering Society, reported on "Continuing Engineering Education —A Follow-up on the El Paso Report."

After lunch with the other practice sections, the PEIs reconvened to hear a very fine panel discussion on "The Impact of OSHA on Engineers in Industry." Two representatives from industry and two government men from OSHA made brief presentations and then answered numerous questions from the floor. This resulted in a very spirited discussion which filled most of the afternoon. The remainder of the afternoon session was devoted to hearing a "Report from Our Man in Washington," R. C. Spears. "Doc" brought the delegates up to date on such things as the PEERS Program, the monthly PEI Newsletter (available on request), the Industrial Professional Development Award which is to be expanded to include a regional award, union activities, material and information available from national headquarters and other matters of interest to the Industry Practice Section. James Janssen, Southwest Region PEI Vice Chairman, closed the meeting with a few remarks and announcements.

Most of the PEI delegates stayed over to attend the sessions of the general meeting on Friday and Saturday.

Louisiana's PEI Section reported on their legislative effort, on the engineering education study and its aftermath, on proposals to assess or to ask annual contributions to special practice section funds, and a study to revise its by-laws. It was brought out that in addition to a general state meeting in Lafayette and to a planning conference for all committees and practice sections in Alexandria, the annual meeting was held jointly with the Mississippi Society of Professional Engineers in New Orleans. Practice sections as well as general meetings were conducted. A highlight of the meet-

ing was the presentation of a state Industrial Professional Development Award to the firm of Ford, Bacon and Davis. The idea of a joint two-state meeting was well received and will be continued.

Engineers in Construction

The Southwestern Regional meeting of NSPE for organization of practice sections of Professional Engineers in Construction was held in Oklahoma City, Oklahoma, on October 26-27, 1972. The purpose of this meeting was to further the organization of PEC sections in all the states in the Southwestern Region and to establish such PEC sections by July, 1973.

There were representatives from Oklahoma, Arkansas, Texas, Louisiana, New Mexico, and Colorado at this meeting.

The rules of government and operation of a PEC section were reviewed with particular emphasis in three areas.

Membership

It was anticipated that members would come largely from inactive members of NSPE who had been unable to find a "home" and new, younger members because colleges and universities were doing a better job in encouraging professionalism. It was felt that emphasis should be placed on Professional Engineers individually within companies rather than principals of companies, where applicable.

Dues

It was concluded and recommended strongly that there be no dues of the new PEC practice sections, it being felt that any dues would discourage new members, and a minimal budget from NSPE supported by outside funding could carry PEC through the formative stages. Examples were given where even $1 discouraged members because some sections do not have dues.

Purpose

A discussion followed as to why a PEC practice section was even necessary. Areas of possible interest and action as submitted to the board of directors at the annual meeting of NSPE on July 15, 1972, were reviewed with considerable discussion focusing on the question of environmental impact and what NSPE might be able to accomplish.

Participants at the meeting were informed they would be provided information by national headquarters to assist in organizing state practice sections. Further, national PEC chairman, George Hightower, and Southwestern Regional vice chairman, Bartell Zachry will provide specific information requested.

Engineers in Government

The PEG Program began at 2:00 p.m. and consisted of a panel discussion of unionism vs professionalism. Guest speakers were Al Bilik, Assistant to the President for the American Federation of State, County and Municipal Employees, AFL-CIO, speaking on advantages to professional engineers for membership in a labor union. Bob Diggs Brown, Vice President in charge of sales, Halliburton Services, spoke on the advantages of a professional engineer belonging to N.S.P.E. The program was geared for a one-hour duration, but because of the interest the question and answer period extended this one hour to two. Mr. Bilik pointed out the advantages of collective bargaining and that such was not unprofessional and that membership in a labor union was compatible with membership in a professional society. He invited the N.S.P.E. to meet with the AFSCME AFL/CIO to discuss subjects of mutual interest.

Mr. Brown gave the advantages for a professional engineer to act as an individual in securing any benefits from an employer and pointed out the incompatability of membership in a labor union by a professional engineer.

Mr. Bilik's main thrust was toward the individual being better protected by collective bargaining and having an organization defend his position of employment. He cited an example of where a professor was defended on a dismissal charge and successfully reinstated. The employees are given an opportunity to have input on employment contracts through collective bargaining procedures.

An area of mutual interest to N.S.P.E. and the AFSCME AFL/CIO is the current trend by local governments to use the Federal Emergency Employment Act to reinstitute the patronage system and destroy Civil Service and merit systems. Joint effort on a national level could help enact legislation of benefit to professional engineers.

Mr. Brown's main thrust was toward the need for the individual professional engineer to maintain his own technical competence and thus guarantee his continued employment and benefits on an individual basis. Mr. Brown cited current problems to engineers as being unemployment, technological explosion and anticipated industrial growth with its projected uncertainties. Possible ways to meet these problems are collective bargaining through labor unions, individual effort and through professional societies.

Through membership in N.S.P.E., the latter two means of attacking the problems can be accomplished. The individual must prove himself and the professional societies need to furnish the necessary guidance.

Also, Robert Mountz, National Chairman of PEG, spoke on the current activities of N.S.P.E. and PEG. There was no business to be brought up before the group and the meeting adjourned at 4:45 p.m.

Approximately 30 people attended the meeting, the PEG members constituting a distinct minority of the audience.

ENGINEER MANAGEMENT COURSE

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OBJECTIVES

The program is designed to provide study in modern concepts of engineering management for members of the engineering profession. It is co-sponsored by the Louisiana Engineering Society, but all practicing engineers are invited to participate. The overall objective is to up-grade the professional management competence and practice of Louisiana engineers.

SCOPE

The program, at present, consists of six courses each of which extends over a University semester. To complete the requirement for the certificate a participant must take Course A, Course C plus any two of the remaining four courses. This allows for some program flexibility. Each of the courses meets fifteen times during evenings and lasts for two and one-half hours. Thus, a student could complete the entire sequence by attending the classes for four consecutive semesters. No courses are offered during the summer term. It is anticipated that the series will be repeated; thus, one could enter the program after the first course offering and complete the series of four courses. The courses can be taken in any order.

ADDITIONAL OFFERINGS

The objective of this program is the continuing of education of engineers in industry. The Engineering Management program coordinator will be happy at any time to schedule a special offering for any group of 20 or more people. Such offerings may be on any engineering or management related subject. (Special offerings will not normally apply toward the certificate unless they represent comparable material.) Persons interested in special offerings should contact the program coordinator for details (see attached form).

FACULTY

The courses will be taught by regular faculty members of the Colleges of Business Administration and Engineering or by able, qualified professors from other universities in the State.

CERTIFICATE

Upon completion of four acceptable courses the participant will be awarded a CERTIFICATE IN ENGINEERING MANAGEMENT by the Division of Continuing Education. Under certain conditions college credit also may be earned for the courses.

COST

The registration fee per participant is $95 for each course including the cost of textbooks. The program is fully self-supporting.

REGISTRATION

To insure that each student will have an opportunity to participate in discussion, enrollment in each section will be limited to 30 students.

Class sessions will be held in the University Medical Center at New Orleans, on the Baton Rouge campus, and in other cities throughout the state where there is adequate demand. To pre-register for the classes complete the attached form and return with $10 pre registration fee. Fee is applicable toward the $95 total registration fee and will be refunded if class chosen is not offered.

PROGRAM OUTLINE

Course A — Concepts of Modern Management

1. Understanding an organization
2. The individual in an organization
3. Organizational objectives
4. Function of managers
   a. Creating
   b. Planning
   c. Organizing
   d. Motivating
   e. Communicating
   f. Controlling
5. Management thought in perspective
6. Principles of management
7. Improving productivity in your organization

Course B — Economics for Engineering

1. Economic systems and functions
2. National income determination
3. Price theory
   a. Demand
   b. Cost
   c. Market structures
4. Income distribution
   a. Wage theory
   b. Interest and rent
   c. Profits
5. The money and banking system
6. Economic policy

Course C — Engineering Economy

1. Interest, the time value of money and the concept of equivalence
2. Interest formulas
3. Methods of evaluating alternatives
   a. Present worth
   b. Annual cost
   c. Rate-of-return
   d. Capitalized cost
4. Benefit-cost ratio
5. Depreciation methods
6. Analysis of multiple alternatives
7. Income tax effects on investments
8. Replacement theory

Course D — Financial Decision Making

1. Money markets
   a. Money, credit, and banking
   b. US government obligations
   c. Interest rates
2. Financial management
   a. Form of organization
   b. Financial planning
   c. Working capital
   d. Fixed capital
   e. Bond financing and borrowing
   f. Corporate stock
   g. Dividends and surplus
3. Personnel investment planning
   a. Savings institutions
   b. Security markets
   c. Security analysis

Course E — Operations Research for Engineers

1. Allocation theory
   a. Linear programming
   b. Transportation problems
   c. Assignment problems
   d. Branch and bound techniques
2. Queueing theory
   Finite and infinite population models with single and multiple channels
3. Inventory theory
   Finite and infinite shortage cost models. (Probablistic and deterministic)
4. Learning curves

Course F — Basic Engineering Statistics

1. Probability
2. Probability distributions
   a. Normal
   b. Binomial
   c. Hypergeometric
   d. Poisson
3. Density functions
4. Data treatment
5. Statistical inference
   a. Inferences concerning means
   b. Inferences concerning variances
6. Curve fitting and regression
7. Analysis of variance
8. Factorial experiments
9. Sampling theory

ENGINEERING MANAGEMENT SURVEY FORM

Please complete the following form and return it with the $10 pre-registration fee to the address below if you are interested in the SPRING, 1973 Program. (Classes will begin during the week of January 22, 1973.)

NAME _____

ADDRESS _____

CITY & STATE
(and zip code) _____

MAIL FORM TO: Dr. Thomas G. Ray
Mechanical, Aerospace & Industrial Engineering Dept.
Louisiana State University
Baton Rouge, Louisiana 70803

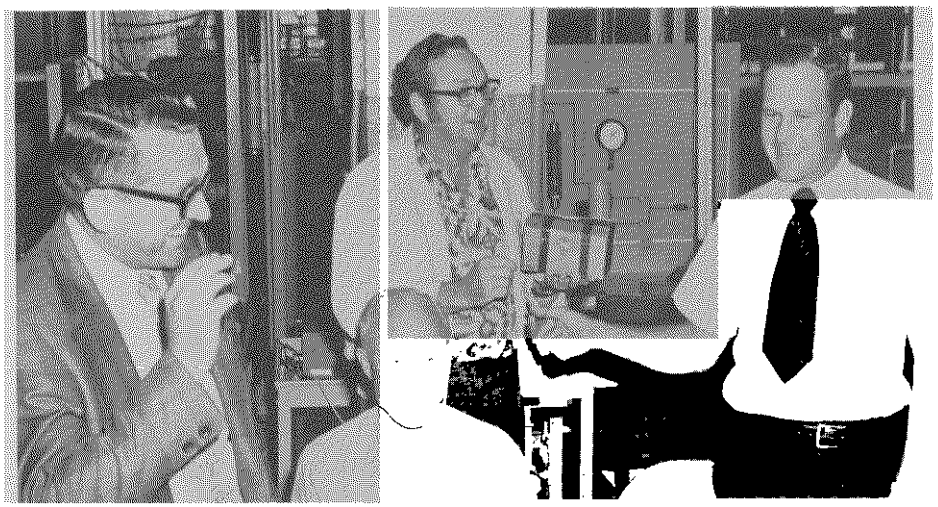
I wish to pre-register for the course indicated. (Please show your first choice with a ***1****, second with a* ***2****, etc. Show a single location choice only.) I understand if my first choice is not offered, I can request a refund of the $10 pre-registration fee. This condition also applies if the class is scheduled on a night I cannot meet.*

Courses Offered	***Locations***
____ *Management*	____ *Baton Rouge*
____ *Economics*	____ *New Orleans*
____ *Engineering Economy*	____ *Lake Charles*
____ *Finance*	____ *Lafayette*
____ *Operations Research*	____ *Shreveport*
____ *Engineering Statistics*	____ *Alexandria*
	____ *Monroe*
	____ *Houma*

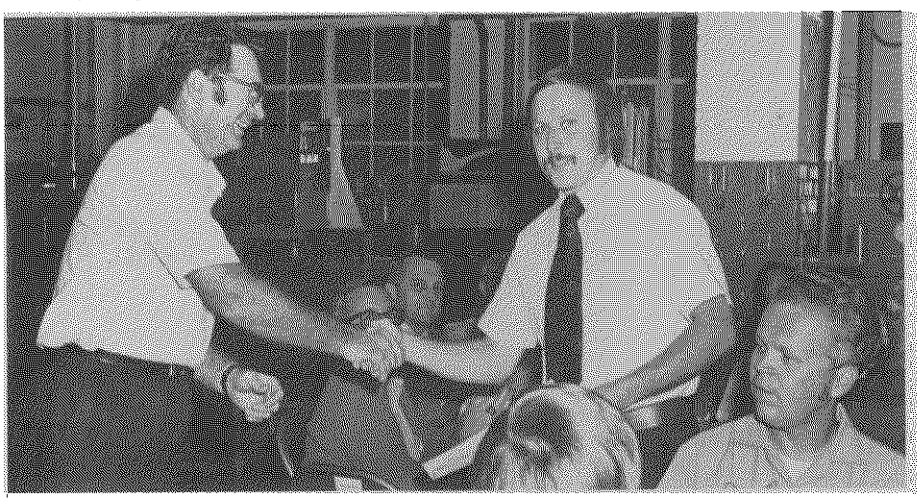
I cannot meet on the following nights:
*M*____ *T*____ *W*____ *Th*____

MONROE CHAPTER MEETINGS

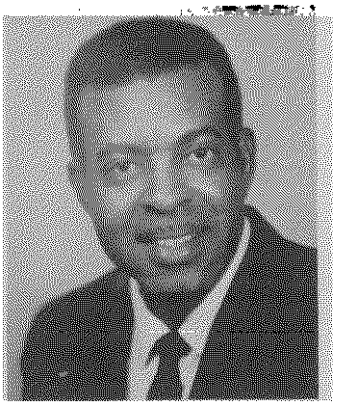
The September meeting of the Monroe Chapter was held on the river boat, Twin City Queen, with Mr. Hoyt Brown as featured speaker. Pictured above from left to right are Buddy Moncla, Chapter President; Gene Stewart, Band Leader, and Asa Ray, Program Chairman.



Gerald Simmons (right), Executive Secretary of the Louisiana Engineering Society, prepares to draw a lucky name for cash jack pot at the annual Shrimp and Oyster Supper of the Monroe Chapter. Holding the jack pot is Asa Ray, Program Chairman; seated is C. F. Stubbs, First Vice President, and standing at left is Buddy Moncla, Chapter President.



One of the newest members of the Monroe Chapter, George K. Hayes (right), receives his member certificate from Charles Edwards (left), Second Vice President, at the annual shrimp and oyster supper.



BURRELL NAMED DEAN

Montrust Q. Burrell, P.E., has been named Dean of the College of Engineering of Southern University, according to President G. Leon Netterville, Jr.

A native of Houston, Texas, Burrell attended Prairie View College and received his Bachelor of Mechanical Engineering from Howard University. After graduation, he remained in Washington, D. C. as General Design Ordnance Engineer for the U. S. Naval Gun Factory.

After serving as Instructor of Mechanical Engineering at Prairie View A&M and Assistant Professor of Mechanical Engineering at Southern, he received his Master's Degree from Tulane University in 1968. He then returned to Southern as Associate Professor and has since held the positions of Professor and Chairman of the Mechanical Engineering Department and Acting Dean of the College of Engineering.

From 1960 to the present he has served as mechanical equipment consulting engineer for small commercial and industrial buildings.

Dean Burrell is a member of the American Society of Mechanical Engineers, the American Society for Engineering Education and the Louisiana Engineering Society. He serves as secretary of the Region X, ASME Department Heads Committee; executive committee member of the Baton Rouge Section American Society for Mechanical Engineers; and Ford Resident Fellowship Committee member of ASEE.

He is married and the father of two sons.

PROFESSIONAL ENGINEERS GRANTED REGISTRATION

OCTOBER 5, 1972

By the Louisiana State Board of Registration for Professional Engineers and Land Surveyors

ANGELLE, RANDALL JOHN
Guntersville, Ala.
Chemical

BARTON, JR., IRA C.
Monroe, La.
Civil

BAUR, HAROLD WILLIAM
New Orleans, La.
Mechanical

BLESS, HAROLD DONALD
Baton Rouge, La.
Chemical

BOLLINGER, JOSEPH MICHAEL
New Orleans, La.
Mechanical

BOOKER, JR., NOAH
Fort Worth, Tex.
Civil

BROUSSARD, WARREN DUDLEY
Shreveport, La.
Mechanical

BUQUET, MICHAEL THOMAS
Lake Charles, La.
Mechanical

CALLOWAY, JERRY CARTER
Spring, Tex.
Mechanical

CASTELLO, IGNAZIO
New York, N.Y.
Electrical

CHENEVERT, JOHN CLIFTON
Houston, Tex.
Mechanical

COATS, SR., ALLEN RICHARD
Gretna, La.
Civil

COYLE, CHARLES GRAVES
Shreveport, La.
Civil

CULLEN, JR., MICHAEL GERALD
Metairie, La.
Civil

del CASTILLO, REYNALDO O.
Baton Rouge, La.
Agricultural

DEXTER, LOUIS H.
San Juan, P.R.
Electrical

DUKES, BILLY MARION
Slidell, La.
Mechanical

FARRIS, BILLY RAY
Gretna, La.
Electrical

FREDERICK, PAUL EMILE
Baton Rouge, La.
Electrical

FREITAG, MICHAEL EDWARD
New Orleans, La.
Civil

FUTCH, DANIEL WILLIAM
Dallas, Tex.
Electrical

GANNUCH, RODNEY JOSEPH
Metairie, La.
Civil

GILBERT, FREDERICK WALTER
Shreveport, La.
Mechanical

GRAHAM, JERRY WILLIAM
Shreveport, La.
Electrical

GREER, DENNIS LYNN
Shreveport, La.
Electrical

GROBE, JR., AVIE MAX
Kenner, La.
Electrical

HAENSEL, JR., WILLIAM BENJAMIN
New Orleans, La.
Civil

HICKS, RALPH LEE
Gretna, La.
Electrical

HOCKETT, ARTHUR MEYER
New Orleans, La.
Civil

HOERNER, JR., MERLIN R.
New Orleans, La.
Civil

HOWELL, JAMES NOBLE
Houston, Tex.
Petroleum

JOHNSTON, CLAYTON GERALD
Houston, Tex.
Mechanical

KELLEY, RICHARD PATRICK
Baton Rouge, La.
Electrical

KHASHOU, KAMAL WADIH
Metairie, La.
Mechanical

KING, GARY PAUL
New Iberia, La.
Mechanical

KNIGHT, STERLING JULIUS
Slidell, La.
Civil

KOLB, JR., FRANK RUPERT
LaPlace, La.
Electrical

KOLLITIDES, ERNEST A.
Sunnyside, L.I., N.Y.
Electrical

LANE, III, BURL BENJAMIN
Houston, Tex.
Civil

LASHLEY, JR., LAWRENCE CRAWFORD
Shreveport, La.
Mechanical

LINDSAY, KENNETH ELWOOD
Northbrook, Ill.
Metallurgical

LISSIAK, JR., VICTOR
Dallas, Tex.
Civil

LOYD, KENNETH RAYMOND
Texarkana, Tex.
Mechanical

MANN, GEORGE PATRICK
Baytown, Tex.
Electrical

MARKE, RALPH A.
New Orleans, La.
Chemical

MAXWELL, JR., JOHN HALSTEAD
Billings, Mont.
Mechanical

McADAMS, JIMMIE
W. Monroe, La.
Civil

McCOY, REAGAN SCOTT
Metairie, La.
Civil

McGEE, DAVID H.
Monroe, La.
Mechanical

MEADE, JR., JOSEPH OWEN
Metairie, La.
Mechanical

MEYER, JACK LEE
Miami, Fla.
Civil

MONTEAUX, JAMES DUDLEY
Baton Rouge, La.
Chemical

MORRISSEY, PAUL VINCENT
Tulsa, Okla.
Electrical

MURPHY, DANIEL LEONARD
New Orleans, La.
Mechanical

NEUMANN, WOLFGANG
Metairie, La.
Electrical

NEWBILL, SAMMIE ERNEST
Baton Rouge, La.
Chemical

ORTIZ, HECTOR ANGEL
Miami, Fla.
Civil

OSTERHOUT, RONALD DEAN
Metairie, La.
Civil

PATSAOURAS, NIKOLAS
Los Angeles, Calif.
Electrical

POTTER, MORRIS L.
Keithville, La.
Mechanical

POURCIAU, ROBERT JOSEPH
Lafayette, La.
Petroleum

PREAU, JR., EDMOND JOSEPH
Baton Rouge, La.
Civil

RATTI, DEAN BAIRD
Seattle, Wash.
Civil

REEVES, STEPHEN ALBERT
LaPlace, La.
Mechanical

RICHARDS, JOHN ALBERT
New Orleans, La.
Mechanical

RICHARDS, TERRY EUGENE
Baton Rouge, La.
Electrical

RIEMER, MILES LOUIS
New Orleans, La.
Electrical

ROBERTSON, CHARLES RODNEY
Pineville, La.
Electrical

ROMANO, ISRAEL
Guaynabo, P.R.
Civil

ROSSI, RONALD JOSEPH
Baton Rouge, La.
Chemical

SCHALLER, ARNOLD LEROY
New Orleans, La.
Chemical

SCHRETTNER, KENNETH CHARLES
Baton Rouge, La.
Mechanical

SCOTT, KENNETH FRANCIS
Gretna, La.
Petroleum

SHELTON, STEPHEN
Miami, Fla.
Mechanical

SMITH, CHARLES WARREN
Oklahoma City, Okla.
Mechanical

SMITH, JAY CHARLES
Gonzales, La.
Chemical

STAKER, CARL
Cleveland, Ohio
Civil

STEPHENS, III, ARTHUR JOHN
Houston, Tex.
Civil

STEVENSON, RICHARD HARRINGTON
Elmhurst, Ill.
Mechanical

STEWART, JAMES EDWARD
Mechanical

STREET, CLIFFORD GAIL
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Civil

SURI, HIRA LAL
Cranbury, N. J.
Mechanical

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Baton Rouge, La.
Mechanical

THOMPSON, JR., WILEY CLAYTON
Bastrop, La.
Civil

TINFO, AVA
Seaford, N.Y.
Mechanical

TREUIL, JR., CLIFFORD LAWRENCE
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Mechanical

VENTURA, HERMAN JOHN
Greenville, Miss.
Electrical

WATSON, WILLIAM ALEXANDER
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Civil

WIESE, JOHN CAVIN
Baton Rouge, La.
Civil

WILLIAMS, LYNDON DEAN
Baton Rouge, La.
Chemical

YEICH, STEPHEN LONG
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Mechanical

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Electrical

YOUNG, RONALD DALE
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Lafayette, La.

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P. O. Box 1762
Monroe, La. 71201

ROBERT W. DAVIDSON
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Ruston, La. 71270

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New Orleans, La. 70115

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New Orleans, La. 70121

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New Orleans, La. 70122

BOARD OF DIRECTION MEETING

September 16, 1972

Bentley Hotel — Alexandria, La.

MINUTES

President Hoyt Brown called the meeting to order with the following members present: Richard L. Bennett, P.E.; Hoyt Brown, P.E.; Ronald P. Cressy, P.E.; Fred C. Culpepper, P.E.; Marshall B. Ewing, P.E.; Charles W. Hair, Jr., P.E.; Frank M. Heroy, Jr., P.E.; T. J. Hogue, Jr., P.E.; Malcolm Hurstell, P.E.; L. E. Kneipp, P.E.; James L. Meyer, P.E.; Frank Miller, P.E.; E. E. Moncla, P.E.; Lamon L. Moody, Jr., P.E.; Waldemar S. Nelson, P.E.; Jesse C. Odom, P.E.; Herb Pourciau, P.E.; Jack Thigpen, P.E., and Edward P. Williamson, P.E., and Gerald A. Simmons, Executive Secretary.

The minutes of the July 29, 1972 meeting were approved as presented with the following correction: On a motion by Dr. Thigpen seconded by Mr. Moody, that the Board of Directors reject the P.E.C. resolution censuring the Publication Committee and/or parties responsible for editorial in the LOUISIANA ENGINEER." An amendment by Mr. Ewing, seconded by Mr. Moody, "that the resolution be removed from the minutes." The motion as amended passed.

The motion for approval of the minutes was made by Mr. Culpepper and seconded by Mr. Cressy and adopted.

Financial Report — The Financial Report was given by Mr. Hurstell, Secretary-Treasurer for the months of July and August, 1972. The report reflects year to date total receipts as of Aug. 31, 1972 of $10,323.28 and expenses of $15,946.50.

Motion by Mr. Miller, seconded by Mr. Nelson, "that the financial report be accepted as presented." Motion Carried.

Mr. Hurstell reported on the legislative fund. He asked each chapter to complete their pledges and transmit them to the State Office.

Dr. Thigpen reviewed the financial statement for the L.E.S.-M.S.P.E. Annual Meeting. He expressed thanks to Al Adoue, Convention Chairman. He stated that the Society will have to consider action in the future concerning the exhibits at annual meetings.

Mr. Hurstell reviewed signature authority for L.E.S. bank accounts. Motion by Mr. Culpepper, seconded by Mr. Pourciau, "that dual signatures be required on all checks and that Mr. Hoyt Brown, J. J. Thigpen, Malcolm Hurstell, Charles Hair and Gerald Simmons be given signature authority." Motion Carried.

L.E.S. Budget — Mr. Hurstell reviewed the proposed budget prepared by the Budget Committee. The committee projected income of $99,600.00 and expenses of $99,600.00.

Motion by Mr. Nelson, seconded by Mr. Miller, "that the proposed budget be adopted." Amendment by Mr. Meyer, seconded by Mr. Miller, "that practice section expenses be increased by $500.00." Motion carried as amended.

Metric System — President Brown introduced Dean Roger Richardson, L.E.S. representative to the E.J.C. Metric System Study Committee. Dean Richardson reported that the committee has had the conversion to the metric system under study for some time and was meeting in New York on the 27th of September to make final recommendations to congress.

Motion by Mr. Nelson, seconded by Mr. Culpepper, "that L.E.S. favor the adoption of the Metric System in the U.S." Motion Carried.

Practice Section Reports

P.E.E. — The following report was presented by Mr. Williamson, chairman of the P.E.E. Section:

The Professional Engineers in Education met from 3:00 to 4:45 p.m., Friday, Sept. 15th with 15 educators and two visitors present.

The status of the project to prepare an environmental handbook for use by engineering educators throughout the state was discussed. Because of the apparent reluctance of many indus-

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tries to submit articles concerning their environmental activities, there has been very little response to requests for material. It was therefore decided to drop the project. Some members have expressed an interest to continue the project on an individual basis, possibly requesting funding from an outside agency, such as NSF.

The P.E.E. Section was requested to report on the Junior Engineering Technical Society (JETS) program. JETS is administered at a National level by NSPE, with literature being available through NSPE. At the state level the program is administered by LES, with assistance from industry on a local basis. Previously this work was done through the Voctaional Guidance Committee. The members of PEE feel that JETS is a valuable point of contact between high school students and the engineering profession. We therefore recommend that the JETS program be continued at the state and chapter level under the leadership of the Vocational Guidance committee.

With regards to the proposed constitutional amendment establishing additional dues assessments for practice sections, we wish to inform the members of PEE that we do not feel that PEE needs any dues at this time, and further, that any future assessments would be subject to approval by mail ballot of the entire PEE membership.

P.E.I. — Mr. Lee Hill, vice chairman of the PEI section, reported the section requested that the LES Board contact the State Board of Registration and ask that they increase the examination requirements to 16 hours.

The PEI Section requested that each member of PEI be assessed $1.00 dues to help finance their programs.

The section affirmed the action of the publication committee relative to the editorial appearing in the LOUISIANA ENGINEER.

P.E.P.P.—Mr. Cressy, Chairman of PEPP, reported that the section will retain all of its special committees now in existence. The section supports the concept of dues for functional section members in LES and encourages the collection of these dues.

P.E.G. — Frank Heroy reported on NSPE activities which are of interest to PEG. An NSPE document concerning fringe benefits for employed engineers was presented to representatives of 50 industries and was well received. NSPE is still working on the problem of representing engineers who are faced with unionization pressures.

Frank Heroy moved that Mr. A. D. Jackson's name be placed at the top of the list submitted to the Board for submission to the Governor for nomination to the State Board of Registration. The last name on the previous list is to be dropped. Seconded by Mr. Hair. This motion introduced because the PEG Section was under the impression that Mr. Jackson was retiring from the board. Otherwise his name would have been at the top of the previous list. The motion was amended by Mr. Heffington, seconded by Mr. Roberts, that the Alexandria Chapter's nominee be added to the list and the last two names eliminated. This was proposed because the Alexandria nominee was not previously submitted to the PEG section through error. The vote was 5 for, 6 against and the motion failed. The Alexandria nominee was Mr. Larkin B. Agnew.

A motion was made by Merlin Pistorius that the PEG Section endorse Mr. Jackson's name for submission to the Governor since the Section had not known of Mr. Jackson's desire for renomination. Mr. Heroy seconded the motion. The motion passed.

Mr. Heroy moved that the PEG section go on record favoring functional section dues not exceeding one dollar per year. The motion carried.

A brief discussion of the circumstances surrounding the LES salary recommendation presentation to the State Civil Service Board followed.

P.E.C.—Mr. Moncla reported that the section was being formed and had indications that a number of members were interested. He requested that the Board proceed with the necessary action to form the Professional Engineers in Construction Section as soon as possible.

L.E.S. Committee Reports

Education Committee—The Engineering Education Committee met at 8:00 a.m. with Vice Chairman G. J. Trammell presiding in the absence of Chairman George Heller. Sixteen members were present. The chair recognized President Hoyt Brown who presented to the committee information and opinion on the Blue Ribbon Committee for Engineering Technology and various technology programs. He emphasized the need for technology programs, the need to keep the quality of the programs high, and the need for keeping the word engineering in the titles of the programs. He discussed the programs at LSU NO, NUNO, and Delgado and also said that another committee would be appointed to work toward the establishment of professional schools of engineering.

A lively discussion on various aspects of technology programs followed. Registration of technology graduates was discussed. It was the consensus of the group that they should be registered but not as engineers and that engineers should be required to take a more difficult examination than the technologists. It was pointed out that ASME is proposing to accept technologists on the same basis as engineers. Some concern was expressed on this matter, and it was also pointed out that the ASME education committee of Region X, which includes Louisiana, has voted against the proposal. The two year and four year technology programs were discussed and it was pointed out that social pressure for a four year college degree gives emphasis to the four year technology program.

The establishment of professional schools of engineering and the NSPE report on engineering technology and professional schools were discussed, but no concrete conclusion was reached. Some of the ideas included:

At what point in the student's career should he enter the professional school?

Should we have pre-engineering?

Coordination between pre-engineering, engineering technology, and professional schools.

Who should teach mathematics, physics, etc., to engineers?

How to promote better relations with the secondary schools was discussed with numerous ideas and experiences being mentioned.

The possibility of an internship program for engineering graduates was discussed with numerous pros and cons.

Dean Roger Richardson gave a report on the Council of Deans. He said that they were not yet clear on all workings of the Council but that they are going to work on coordination of course offering so that work at one engineering school in the state is acceptable at another. They will all work on certain legislative matters for the society. Liaison members from LES will also meet with the Council. The next Council meeting is scheduled for November.

Inter-Society Relations Committee—Proposed activities for the committee are as follows:

1. Determine the representation of the various engineering societies in the state of Louisiana.
   A roster of engineering societies with chapters or sections in Louisiana will be developed. The list will be kept as current as possible, indicating the officers and their addresses. The immediate source of this information will be from members of L.E.S. who are also members of other engineering societies.
2. Determine a means of establishing communications with these societies.
   A representative of each society will be listed for liaison activities in which L.E.S. will be involved.
3. Determine the status of each society regarding the handling of matters pertinent to their profession in Louisiana.
   Has the Society signed an agreement with NSPE or other organizations for handling legislative matters? If not, will they agree to let L.E.S. do this?
4. Establish liaison with these engineering societies for the purpose of coordinating actions of interest to the engineering profession.
5. Study the possibilities of developing "Councils of Engineering and Scientific Societies" at each chapter level. This is to promote joint meetings and coordination of efforts at the local level.
6. Further study the feasibility of forming a "Council of Engineering and Scientific Societies" on a state level.
   Representatives on this council might be those indicated in item #2 above. These could meet regularly and maintain communications among the societies.
7. Develop joint resolutions with the various societies for presentation to other pertinent committees, organizations, or sections.
   This could be one of the functions of the state council mentioned in Item #6.
8. Inform the various societies of functions of L.E.S. and learn their functions.
   This will aid in avoiding conflicts of meetings.
9. Suggest means of improving relations among the societies and directing their attention toward the common goal of serving the public with high quality engineering.
10. Other areas as suggested by members, administration and other organizations.

Honors & Awards—Chairman Hogue reported that the committee is beginning to contact the chapters for nominations for the various L.E.S. awards. The deadline for nomination is Feb. 1, 1973.

Public Relations—The committee recommended that Mr. Carl Mullican, a Public Relations Professional, be retained to help in improving our Public Relations Program. The committee agrees with Mr. Mullican that our most important and first action will be to improve communications, internal and external, of the Louisiana Engineering Society.

The committee suggests that the publication "LOUISIANA ENGINEER" print instructional information articles to the individual engineer on self help in general public relations matters.

The committee members request individual guidance be given each chapter in the form of written instructions on a periodic basis from Mr. Mullican to keep the chapter programs moving in the same direction over the state.

Legislative Committee—The meeting was called to order by Larry A. McKee, Chairman. The minutes of the previous meeting were not available for reading, consequently, no action was taken thereon. The meeting was open for old business. A lengthy discussion followed concerning the activities of the previous committee; the legislative program that had been proposed by the previous committee; and the possibility of extending or modifying the previous legislative program.

New business consisted of a report from Mr. Roy Cappell concerning the necessity for liaison between Louisiana Engineering Society, the American Society of Civil Engineers and the Consulting Engineers Council.

Next followed a very informative report from Mr. Waldemar Nelson concerning the Louisiana State Board's upcoming study of state registration laws.

Additional new business included the upcoming State Constitutional Convention, which convenes January, 1973. After a lengthy discussion of this matter, it was the general consensus of those present that this was of such importance that it warranted immediate attention by the Board of Direction of the L.E.S.

The following resolutions were subsequently offered by Mr. Roy G. Cappell of New Orleans, and seconded by Mr. A. J. Adoue, Jr. of New Orleans, and unanimously carried.

RESOLUTION #1—That the Board of Direction of the L.E.S. designate the Legislative Committee, or a representative therefrom, to represent the Society at any meetings of the La. State Board of Registration held for the purpose of reviewing the findings of their study of registration laws.

RESOLUTION #2—Recommended that the Board of Direction of L.E.S. appoint 1, 2 or 3 delegates to represent

the L.E.S. at the Constitutional Convention, which is slated to convene in January, 1973.

Insurance Committee—Application forms are now being printed. These will be mailed to those persons or firms who expressed interest in the initial survey. These will be applications for rate quotations. The program is moving forward rapidly; and will shortly be in effect. We should take full advantage of this service to induce potential members to join the society.

Ethics Committee—The committee recommends to the Board of Direction that the L.E.S. officially request of the State Board of Registration that a Code of Ethics be incorporated in the registration process and made a part of the application for registration as a P.E. or Land Surveyor, and that the L.E.S. offer its assistance toward this end.

Ethics Committee plans as its year activities, in addition to its routine duties, to:

(1) continue its review of Article X of the Constitution with consideration of revision, and

(2) publication and dissemination of the revised Code as accepted previously by the Board.

Ethics Committee adopted a committee operating procedure by which each chapter committee will have a single vote on consideration of complaints. The chapter presidents are requested to so inform their representatives to the State Committee.

Membership Committee—Mr. Ewing requested that the Board take action on the membership committee's proposal to include NSPE membership in the contest.

Motion by Mr. Ewing, seconded by Mr. Moncla, "that the chapter be credited with one point in the membership contest for each new NSPE member." Motion carried.

L.E.S. Liaison Members to Council of Deans—President Brown reviewed the results of the meeting of the Council of Deans. One of the suggestions of the Council was the appointment of two L.E.S. members to serve as a liaison between the Council and L.E.S. The Board appointed Mr. Hoyt Brown and Mr. George Heller.

N.S.P.E. Request for Funds—President Brown reviewed a request for $100 from N.S.P.E. to defend N.S.P.E.'s position against price bidding for engineering services. Motion by Mr. Hogue, seconded by Mr. Cressy, "that the $100 to N.S.P.E. be approved." Motion carried.

Ohio Resolution—Ohio requested the support of L.E.S. for Mr. Edward Slowter as President elect of N.S.P.E. The Board agreed to withhold action.

Nominations to Governor for vacancy on State Board of Registration—President Brown called for nominations from L.E.S. to the governor to fill the vacancy to be created by the expiration of the term of Mr. A. D. Jackson serving as a government representative. Mr. Hair submitted the following nominees approved by the P.E.G. Section: Roger Guissinger, Daniel Cresap, Frank Heroy, Jr., Gerald Dyson, Charles Hair and A. D. Jackson.

Motion by Mr. Hair, seconded by Mr. Heroy, "that the name of A. D. Jackson be listed first." Substitute motion by Mr. Moody, seconded by Mr. Kneipp, "that Mr. Jackson's name not be included as a nominee." Substitute motion carried.

Motion by Mr. Moody, seconded by Mr. Miller, "that a letter of appreciation from the Society be written to Mr. Jackson since his retirement from the Highway Dept. thanking him for his faithful years of service to the profession." Motion carried.

The following nominations were made in addition to the five nominees mentioned above: Larkin Agnew John E. Boagni, A. J. Dunn, Robert Graves, and H. R. Norckauer. Motion by Mr. Miller, seconded by Mr. Pourciau, "that the ten nominees listed be submitted to the governor." Motion carried.

Proposal to change N.S.P.E Regions—President Brown reviewed a proposal by Mr. Janssen to request that N.S.P.E. consider revising the regions to create a new region for the southern states.

Motion by Mr. Heroy, seconded by Mr. Hogue, "that a study of the possibility of creating a southern region of N.S.P.E. be conducted." Motion carried.

President Brown appointed Mr. Janssen as chairman of the study committee with Mr. Heroy and Mr. Leo Odom as members.

Discussion of L.E.S. Policy on Municipal Building Codes—President Brown read a letter from Mr. Merritt McDonald requesting a review of the LES policy on Building Codes.

Motion by Mr. Cressy, seconded by Mr. Moody, "that the matter be deferred until Mr. McDonald could be present for a board meeting to discuss the issue." Motion carried.

L.E.S. Billing Procedure—Motion by Mr. Meyer, seconded by Mr. Ewing, "that the L.E.S. Dues notices include the practice section dues in the total and that a note be made on the notice that the assessment is voluntary." Motion carried.

Ownership of Drawings—Mr. Pourciau discussed the problem of ownership of drawings on engineering projects. Motion by Mr. Culpepper, seconded by Mr. Pourciau, "that the matter be referred to the PEPP Section for recommendations." Motion carried.

Bylaw & Constitution Committee—Motion by Mr. Moody, seconded by Mr. Nelson, "that the bylaw and constitution committee report to the board at the next meeting as to the votes required to adopt policy of L.E.S." Motion carried.

Constitutional Convention—The Board agreed that the legistive committee of L.E.S. is charged with the responsibility of working with the delegates to the Louisiana Constitutional Convention in the best interest of the engineering profession.

The next meeting of the Board of Direction will be held, Friday, November 10, 1972 in Baton Rouge.

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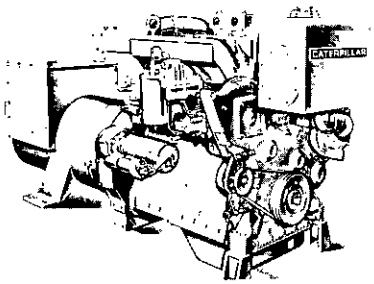

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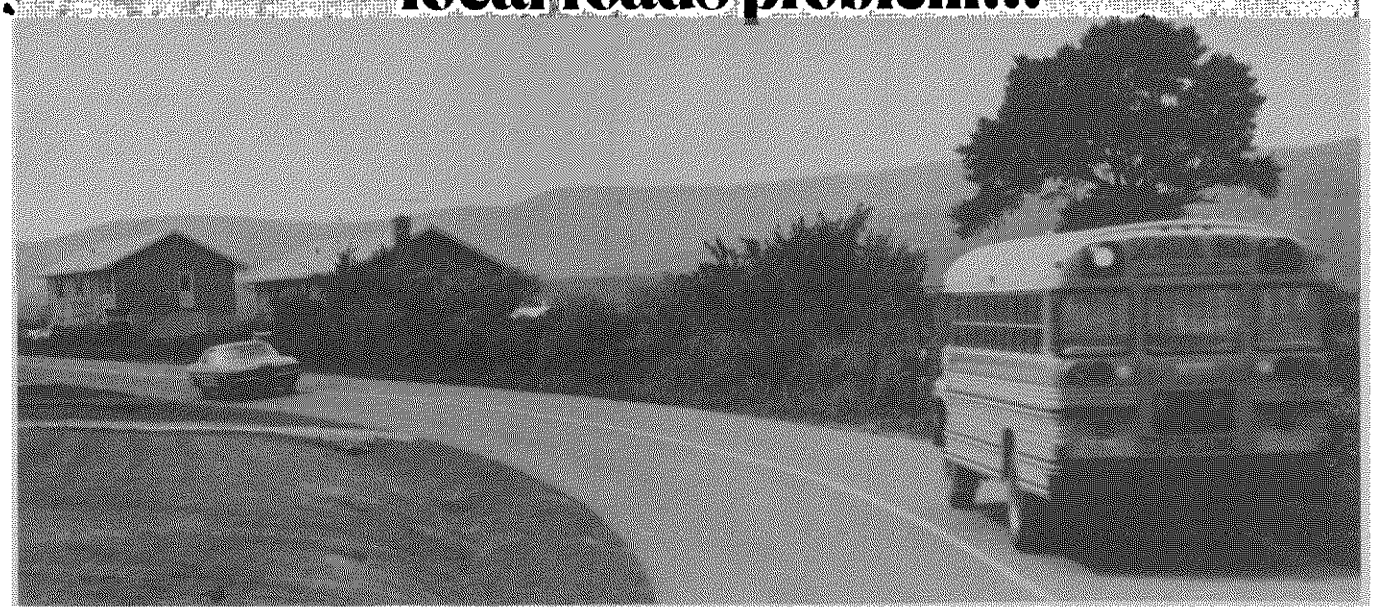

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