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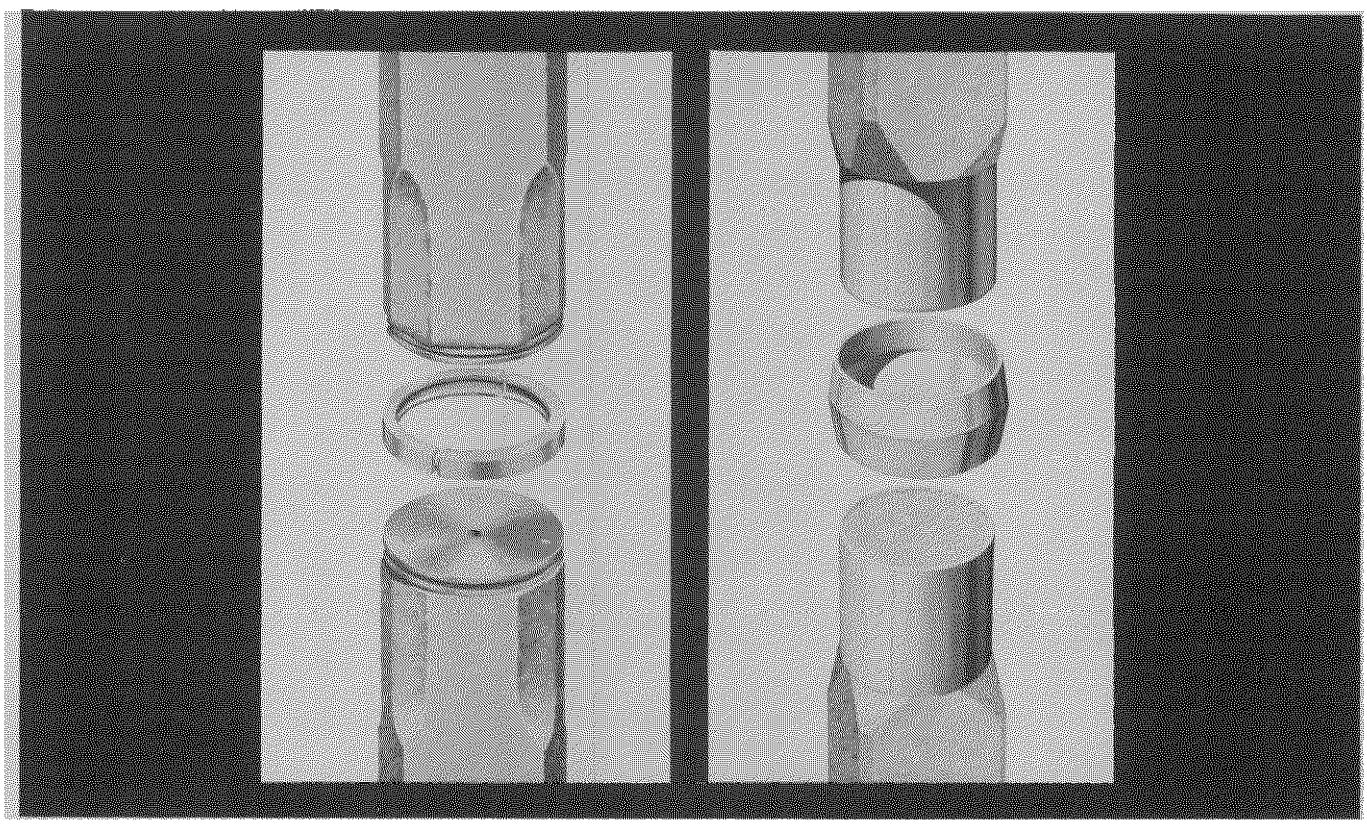

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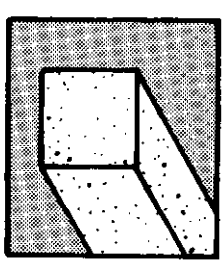

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Edwin Edwards
Governor

Proclamation

WHEREAS, National Engineers Week, February 20-26, 1977, with its avowed purpose to familiarize the public with the work of engineers and to honor outstanding members of the profession; and

WHEREAS, engineers throughout Louisiana will conduct special programs emphasizing the 1977 theme, "Key to the Future...Engineering"; and

WHEREAS, today's engineers are helping to lead the way...for a cleaner environment, more reliable energy, more productive agriculture, more efficient transportation, more habitable cities, more effective medical technology, a healthier work environment and a safer consumer market place; and

WHEREAS, it is fitting that we honor the engineering profession in Louisiana and the talented and hardworking men and women whose skills have and will continue to improve the quality of life.

NOW, THEREFORE, I, EDWIN EDWARDS, Governor of the State of Louisiana, do hereby proclaim the week of February 20-26, 1977, as

ENGINEERS WEEK

and urge all citizens to join with me in paying tribute to the engineers of Louisiana.

In witness thereof, I have hereunto set my hand officially and caused to be affixed the Great Seal of the State of Louisiana, at the Capitol, in the City of Baton Rouge, on the 13th day of January, A.D., 1977.

Governor of Louisiana

Attest by
The Governor

Secretary of State

THE WHITE HOUSE
WASHINGTON

National Engineers Week
(February 20-26, 1977)

Since the time of our first engineer-President, George Washington, members of the engineering profession have been leaders in making America the world's most technologically-advanced country.

As an engineer myself, I recognize both the enormous progress made, and the challenges yet to come. Perhaps the greatest of these challenges, as we enter our third century as a nation, is the husbanding of our natural resources.

I am confident that the engineering profession will be able to come up with energy-thrifty designs for buildings, homes, automobile engines, appliances, and a hundred other things.

And already the engineers of America are leading the way toward more effective utilization of the almost limitless energy locked in wind, water, and the sun's rays.

It is thus particularly appropriate that you have chosen "Key to the Future...Engineering" as the theme for National Engineers Week, 1977. The engineers of America carry with them my best wishes as they work toward that future.

Jimmy Carter

National Society of Professional Engineers
2029 K Street, N.W.
Washington, D. C. 20006

February, 1977

LOUISIANA ENGINEER

The LOUISIANA ENGINEER is the offical 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.

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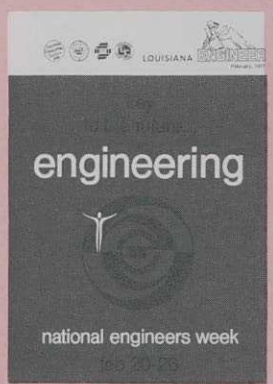

About the Cover

The Louisiana Engineering Society joins NSPE in observing Engineers Week February 20-26. For a provocative discussion of the role of engineers in modern society, please turn to the article by the Duke of Edinburgh on page 12.

In This Issue

Engineers Week Proclamations 3
Presidential Privilege 5
"Doc" Spears at Pearl Harbor 6
State Board of Registration Annual Report 10
Engineering: Where Have All the Great Men Gone? .. 12
Two Tulane Engineers Assist in Design of Unique Bridge . 14
Potpourri 16
EngiNEWS 18

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Presidential Privilege

James L. Meyer, P.E.
President, LES

This presidential Privilege is dedicated to a man for whom I have the utmost respect. He is one to whom all practicing engineers in the state are indebted, not only the members of LES. He is R. Carlton ("Doc") Spears, the Executive Secretary for the Society.

Elsewhere in this issue is an article which describes some of Doc's military experience. A similar article appeared in the Baton Rouge *Sunday Advocate* in commemoration of the anniversary of the day that Pearl Harbor was attacked. I highly recommend that you take a few minutes and read the article. It will give you the opportunity to know the Executive Secretary better.

Doc joined the LES staff in 1973, coming to us from the staff of the National Society of Professional Engineers where he worked with Professional Engineers in Industry. No one appreciates better than the NSPE staff that LES's gain was their loss.

Doc's motives for coming to Louisiana were, quite naturally, personal. Baton Rouge was close to his and his wife's home. Whatever the reasons, however, LES was able to employ an active, aggressive, enthusiastic Executive Secretary. He is knowledgeable in the affairs of the engineering profession and is very competent in carrying out the duties of his office.

Doc has been a stabilizing factor for LES. His initiative and innovations in managing the state office have not only relieved some of the burden from the elected officers, but have also resulted in more accomplishments for engineers in Louisiana. Many examples could be cited. Notable are his contributions to this publication, and the bi-monthly preparation, authorship and publication of the *PERSPECTIVE*. Doc's efforts have increased the advertising income for the *LOUISIANA ENGINEER* by some 40 percent.

Doc and his lovely wife Mary celebrated their 32nd wedding anniversary during the State Planning Conference last September, an event which did not go unnoticed. The marriage between Doc and LES hasn't been as long, but the time we have had together has been, without question, of significant advantage and benefit to LES.

I am confident that we are all proud of Doc for many reasons, not the least of which was "Kaneohe Bay."

'Doc' Spears at Pearl Harbor: One Flying Bo

LES Executive Secretary R. C. ("Doc") Spears remembers Sunday, December 7, 1941, too well.

The 22-year-old ensign was on routine antisubmarine patrol out of Kaneohe (on Oahu, Hawaii) as copilot and navigator-alternator on one of three planes on duty patrol that day.

At 7 a.m., he and the crew spotted a Japanese submarine going into Pearl Harbor. With the help of a ship in the vicinity, Spears and the crew sank the sub. Their warning efforts were less successful.

"We kept on radioing, and then by 8 a.m. it was too late. The air was full of emergencies—bedlam. Everyone was yelling, 'Help! I'm under attack!'

"At 8:30 we headed back into Kaneohe to land, and just as we got into the base, the Japs were bombing the hell out of Kaneohe. Every hangar was on fire, strafing, bombs exploding, with about 50 planes with the Rising Sun on them in the air.

"There we were—in this twin-engine amphibious flying boat that goes 90 knots (about 105 miles) an hour—with fighter planes above. We knew we had to get out of there. What would you have done?

"We got down low, about 20 feet off the water, and headed north in hopes that the plane's blue paint would not be noticed against the water."

After 150 miles they saw Japanese fighter and bomber planes above them again. Unknown to Spears and the crew, the 48 planes they sighted had expended their ammunition and had just enough fuel to get to their carriers that were headed back toward Japan.

"We thought they were going to attack us! Imagine how scared we were."

It was from the navigation charts of the plane Spears was aboard U.S. Intelligence determined from what direction the Japanese planes had come and where the carrier had been. They had come in due north, the direction his plane had taken.

Back at Kaneohe, they found three out of 36 planes left. The rest had been sunk; burned or destroyed. What Spears saw on the way to his quarters was something he will never forget: sailors were taking off their white suits and dipping them in a large cooking pot full of coffee to dye them a darker shade for camouflage, fearful that the Japanese would return.

As soon as the garments came out of the dye the men were putting them back on; sopping wet, and rushing out to dig foxholes, build gun emplacements and construct sandbag barriers.

"You're not as scared at the time something is happening as you are later," Spears told the Baton Rouge *Sunday Advocate* recently. "The Japs could have taken the whole island with 1,000 men because it was a maze of confusion and it stayed that way for about 10 days."

After the attack, he explained, rumors were rampant about a follow-up invasion of Japanese paratroopers. "Everytime the floor creaked, everyone was scared to death."

Heightening the predicament, Spears and two of his comrades were given a driver, a command car, machine guns and helmets and assigned to drive to Pearl Harbor, a larger base than Kaneohe, to find some available aircraft for the Kaneohe aviators to use. They ar-

Continued on page 8



"Doc" Spears, as an ensign and later as a lieutenant in World War II, distinguished himself during his service as a Navy aviator.

gainst the Rising Sun Air Force



Spears receiving one of two Distinguished Service awards for heroism during the war.



At a party at Guantanamo Bay, Cuba, Spears and his wife celebrated his promotion to Navy commander.

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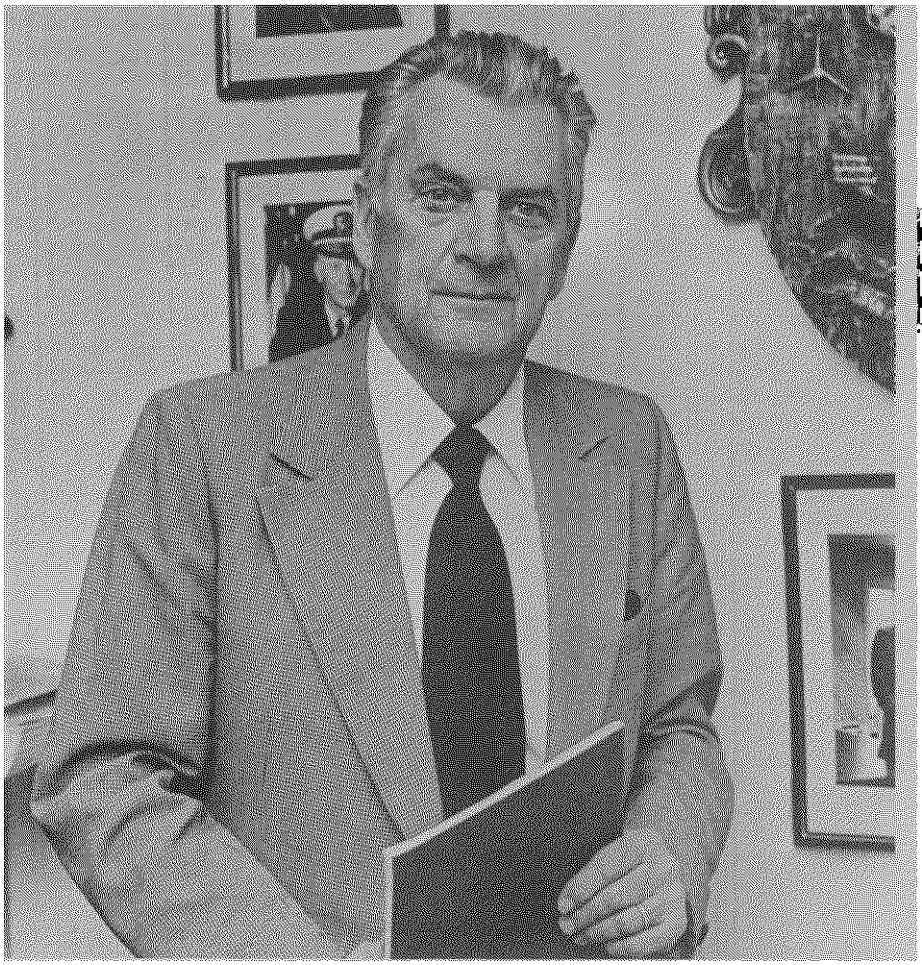


Spears in his office at the Louisiana Engineering Society headquarters.
(Photo by John Williams, courtesy of Capital City Press.)

'Doc' Spears at Pearl Harbor

Continued from page 6

rived at Pearl Harbor at daybreak on December 8.

"Two or three ships were still burning, the Oklahoma was upside down, there was oil all over the water and a terrain of sunken battleships," Spears told *Advocate* reporter Annabelle Armstrong. "But what really affected me was seeing the administration building at the Ford Island Naval Air Station."

No planes came in that day, and when they did the aviators had to fly constant patrols.

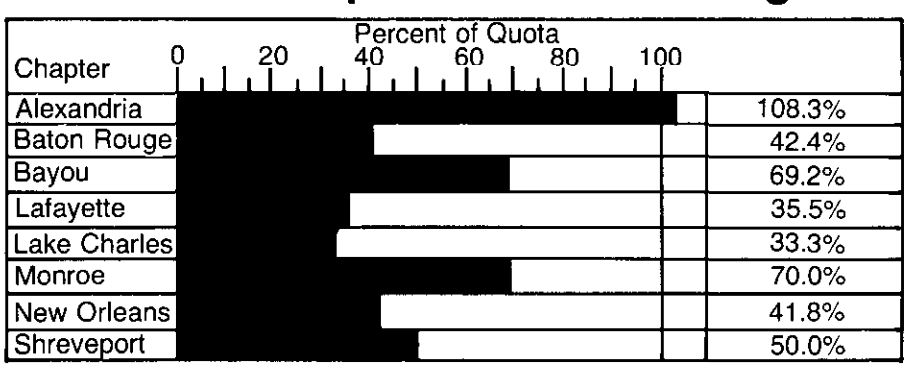
During his year in the Pacific (beginning three months before the attack) Spears flew 75 patrols of 12 hours or longer, in addition to shorter hops. He went on to patrol New Caledonia, was in the invasion party for the Solomon Islands, Tulagi and Guadalcanal, and then was ordered back to the States to form a new squadron. With the new squad he did antisubmarine patrol in Iceland and England as well as French Morocco.

Spears received two Distinguished Service Crosses, one for sinking a German submarine in the straits of Gibraltar in 1944 and one for heroism in the Bay of Biscay in 1943.

After the war Spears and Mary Elizabeth Matthews, whom he had married in 1944, settled in Dermott, Arkansas, where he coached football. Shortly afterwards, however, he was offered a regular commission as a lieutenant commander in the Navy. He took it, re-entered the service and retired as a commander in 1962.

Then came seven years in Sacramento, California as operations control analyst for the Minuteman and Nuclear Missile Program, and a stint on the staff of the National Society of Professional Engineers in Washington. Since 1973 he has been executive secretary for LES.

Membership Contest Standings*



* As of December 28, 1976.

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The importance of electricity to Americans is an accepted fact. Today, electricity represents 25% of all the energy used in the United States. And by the year 2000, it will represent almost 50% of all energy used. Clearly, electricity will become increasingly important in the years to come, and clearly we should not rely on a single source of fuel to provide it. That's why your investor-owned utility companies are sponsoring research and development programs to find better ways to generate electricity.

An important factor in any solution would be the use of coal. Unlike our oil and gas reserves, coal is in plentiful supply. In fact, many geologists say that at the present rate of consumption there is enough coal to last our country 500 years. Even though all energy costs are going up, environmentally clean nuclear power combined with coal will be the most reliable and economic means of providing electricity for many decades into the future. And your investor-owned electric utility companies think that's important in order to insure you of dependable electric service at a reasonable cost.

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State Board of Registration Presents 1976 Annual Report

The regular meetings of the Board were held in January, March, May, July, September and November.

The following is a tabulation of applicants considered during the year:

PROFESSIONAL ENGINEER

Applicants considered	871
Applicants approved on the basis of:	
Graduation plus Experience	403
Long Established Practice	11
Reciprocity	285
Experience plus Examination	28
Applicants disapproved	25
Applications withdrawn	40
Applications being processed	79

LAND SURVEYORS

Applicants considered	58
Applicants approved	6
Applicants disapproved	6
Land Surveyors-in-Training approved	5
Land Surveyors-in-Training disapproved	3
Applications being processed	38

The following is a tabulation of the total number of Professional Engineers, Land Surveyors and Professional Engineers (Public Employees), Engineers-in-Training and Land Surveyors-in-Training holding registration and certification as of December 31, 1976:

Professional Engineers	11,947
Land Surveyors	3,340
Engineers-in-Training	2,002
Public Employees	56
Land Surveyors-in-Training	8

Below is a tabulation of the number of Professional Engineers registered in the various branches as of December 31, 1976. Some persons are registered in more than one branch:

Agricultural	147
Chemical	1,054
Civil	4,605
Civil/Industrial	3
Electrical	1,974
Industrial	79
Mechanical	3,307
Mechanical/Industrial	51
Metallurgical	33
Mining	30
Petroleum	1,065
Petroleum/Industrial	1

Examinations in fundamental engineering subjects were given on April 10 and November 6, 1976 in each of four cities in Louisiana: New Orleans, Baton Rouge, Lafayette and Ruston. A total of 696 applicants took these examinations.

The Board used the examinations prepared by the National Council of Engineering Examiners to examine applicants in the branches of engineering and in the fundamentals of land surveying. These examinations were administered in New Orleans in April and November to a total of 109 persons. In April and November the Board gave an examination in the laws, procedures and practices pertaining to land surveying in the State of Louisiana. A total of 10 persons took this examination.

Waldemar S. Nelson has been appointed Treasurer of the National Council of Engineering Examiners (NCEE). This new office was created by an amendment to the NCEE Constitution last summer. The Louisiana Board continues to be well represented on committees of NCEE. Larkin Agnew is a member of the Model Law Revision Committee; Fred Culpepper a member of the Public Information Committee; Andrew Moore a member of the Uniform Examinations Committee; and Dan Vliet, Executive Secretary of the Board, a consultant to the Joint International Committee.

In July 1976 Governor Edwards appointed James L. Meyer to a nine-year term as a member of the Board to replace Leo M. Odom whose term of office expired. Mr. Meyer is registered in the branches of Civil and Chemical Engineering and is President of the Louisiana Engineering Society and President of the consulting engineering and land surveying firm of Meyer, Meyer, LaCroix and Hixson, Inc.

Mr. Odom served the Board and its predecessor for 32 years. During this period he continually expended his enthusiasm, wisdom and untiring energies to the advancement of the registration of Professional Engineers and Land Surveyors on both state and national levels. In recognition of his substantial contributions in this regard he has received every award for distinguished service that the National Council of Engineering Examiners offers.

The Registration Law was amended during the 1976 Legislative Session to increase the upper limit on fees and to provide for the publication of a complete roster once every two years rather than every year. The only increase in fees expected at this time is an increase in the registration fee to $35.

As a result of the reorganization required by the new Constitution the Board was made a part of the newly created Department of Transportation and Development (DOTD). Thus far there have been no significant

changes in the operations of the Board as a result of this reorganization. Louisiana's "Sunset Law" provides for the termination of this Board and all of the other statutory entities that were made a part of the Department of Transportation and Development and provides a procedure for their re-creation after a "zero-base budget review and evaluation." In 1978, two years prior to the scheduled date of termination, the committee of the Legislature will begin its "zero-based budget review and evaluation of this Board."

The requirements for the registration of Professional Engineers have been recently revised. A person to be registered on the basis of Long Established Practice will be required to pass an eight-hour written examination in the branch of engineering in which he seeks registration. Persons who apply for registration on the basis of Experience Plus Examination will be required to have at least four years of satisfactory experience subsequent to being certified as Engineers-in-Training before they will be permitted to take the written examination in the branches of engineering in which they seek registration.

Effective July 1, 1978 all who apply for registration on the basis of Graduation Plus Experience will be required to pass two eight-hour written examinations, one in fundamentals and the other in the branch of engineering in which they seek registration. The requirements for the certification of Engineers-in-Training on the basis of Experience plus Examination have been amended to require at least four years of satisfactory experience before approval is given to take the examination in fundamental engineering subjects.

The Board investigated 144 cases involving possible violations of the registration law with regard to the practice of engineering and land surveying. Of these 119 were settled without litigation. The balance are still under investigation.

A list of the firms that have complied with the regulations of the Board that govern engineering and land surveying firms is published in the *YEAR BOOK*. These regulations, also published in the *YEAR BOOK*, require each qualifying firm to list principals and full-time employees who are registered in Louisiana. A new list must be submitted before July 1 of each even-numbered year.

Louisiana State Board of Registration for Professional Engineers and Land Surveyors
Statement of Receipts and Disbursements
For the Year Ended June 30, 1976

RECEIPTS	
Registration—Engineers:	
Diploma	$ 16,950
Interstate	5,955
Long-Established Practice	825
Examination Fees—Engineers	1,333
Examination Fees—Land Surveyors	170
Licenses:	
Professional Engineers	112,778
Surveyors	16,635
Public Employees	123
Engineer-in-Training	6,764
Temporary Permits	400
Penalties—Delinquent Licenses	2,941
Miscellaneous Receipts—Sale of Certificates, etc.	442
Interest:	
Certificates of Deposit	3,614
U. S. Treasury Bills	2,649
Total Income	**$171,579**
DISBURSEMENTS	
Per Diem to Board Members	$ 3,700
Expenses of Board Members	9,774
Technical Services of Board Members	340
Technical Assistance—Examinations, Grading, Investigating, etc.	4,019
Salaries—Executive Secretary and Administrative Assistant	24,325
Salaries—Stenographic and Clerical	20,348
Data Processing Service	4,102
Retirement Fund Contributions	3,378
Attorney Fees and Expenses	4,981
Auditing and Accounting Fees	1,025
Insurance—Blanket Position Bond, Accident Liability, Hospitalization, etc.	1,707
Dues—National Council of Engineering Examiners	1,025
Examination Papers—National Council of Engineering Examiners	10,061
Printing	21,904
Postage and Express	13,393
Rent	10,728
Office Supplies and Miscellaneous Expenses	2,622
Maintenance of Equipment	205
Telephone and Telegraph	2,387
Fees Refunded	607
Partial Cost of Publishing THE LOUISIANA ENGINEER	13,554
State and Federal Unemployment Taxes	503
Total Expenses	$154,688
EXCESS OF RECEIPTS OVER DISBURSEMENTS	**$ 16,891**

January 26, 1977

Engineering: Where Have All the Great Men Gone?

The Duke of Edingburgh[1]

The trouble with good engineers is that they are the leaders of industrial innovation and progress, and the trouble with innovation is that is causes social disruption and insecurity.

The advantages of innovation are fairly obvious. In the public sector it is the health, well being and social convenience of the community, in the private sector it gives that competitive edge over rivals which gives employment and creates wealth, and in the military sector it provides the ability to defend the freedom and independence of the nation. But the price to be paid for innovation strikes many people as unacceptable. It calls for changes in employment patterns, it expects people to acquire new skills, it upsets traditional structures of management and union organisation, and it demands social mobility and flexibility.

Perhaps worst of all, at least in the eyes of some, is that it allows enterprising upstarts to jump the orderly queue up the reward ladder and even to make fortunes beyond the dreams of the security conscious organisation men.

The problem engineering has had to face in this country since the heyday of the industrial revolution has been the progressive determination to bring the apparent aberrations of a free for all system under some sort of bureaucratic control. The dilemma, which has now become apparent, is that if the advantages and dislocations of competitive innovation between companies are restricted or inhibited beyond a certain point it becomes progressively more difficult for the nation's industry to have that competitive edge in the international market place which economists of all complexions consider to be essential to provide economic growth. Job preservation at the expense of that competitive edge means job destruction in the long run.

The pressures to bring the disruptive consequences of industrial innovation under control are understandable and accepted, on condition only that the controls do not remove the very elements which provide the motive for innovation. But British engineering has also had a different and a rather more insidious problem to contend with. Whatever may be the popular view, the fact is that we suffer in this country a great deal more from intellectual snobbery than from social snobbery.

In his book "Paxton's Palace" which Anthony Bird completed just before his death in 1974 he writes:

"Self-made men of the parvenu speculating entrepreneur sort, who are now acceptable, were anathema to our great grandfathers but the working class boy who made good in the solid productive industries was a hero, and it is notable that a large proportion of those who transformed Great Britain into a great industrial power between 1760 wnd 1860 were men who would have almost no chance to show their mettle in these more enlightened times. Would George Stephenson, who was almost illiterate, be hired today as surveyor, engineer, locomotive designer and general miracle worker by the Manchester and Liverpool Railway? Would Joseph Paxton, who had no formal qualifications as engineer and architect, be allowed a chance to design a building which was not only more than twice the size of St. Paul's Cathedral, but was built on principles which were virtually untested?"

Far from admitting that there was anything like two cultures, I suspect the Victorians recognised that men of all accomplishments were capable of showing social concern and cultural consciousness. They saw the essential unity of the arts, science and manufactures.

Engineering, except for that short period in the middle of the nineteenth century, has been looked upon as a second-class intellectual activity not really fit to be compared with the arts, classics, finance or even science. I suspect that the trouble is that the discipline of engineering is absolute. It either works or it does not.

In that sense it is even more strict than scientific research because the exposure of a false theory in basic science is merely a blow to the intellect and need have no practical consequences; the exposure by failure, of a piece of engineering design is a double blow to one intellect and also the pocket and can have very serious practical consequences.

The engineer is constantly confronted by conflicting priorities but the options are hard and fast.

It is always possible to find arguments and excuses for disastrous

[1]Published by permission of John D. Ryan, executive editor, *The Guardian*, London. The article originally appeared in *The Guardian* July 25, 1976.

administrative and economic decisions. There are so many factors and variables and the final responsibility is so well camouflaged that the most ardent and objective investigator is never able to pin the blame on anyone.

If there is an engineering disaster, it is there for all to see and in the end some poor engineer will be found to have stuck his neck out too far. He cannot use the excuses that the opposition had done it before or that his idea was sanctioned by the party headquarters or that it followed the principles laid down by someone writing 120 years ago.

It is this uncompromising aspect of engineering which seems to make it so inferior in the eyes of those who delight in battles of wits and theory rather than in battles of facts and creation.

There is perhaps one other factor in the popular attitude towards engineering. So many people seem to associate engineering simply with the maintenance of convenient domestic gadgets. What they fail to appreciate is that their whole way of life owes more to engineers using scientific principles than any other group in society.

Apart from the household machinery, they owe to the engineers the provision of electricity, clean water, sewage disposal, transport, convenience foods in tins or packets, insecticides, air-conditioning, radio, television, and telephones.

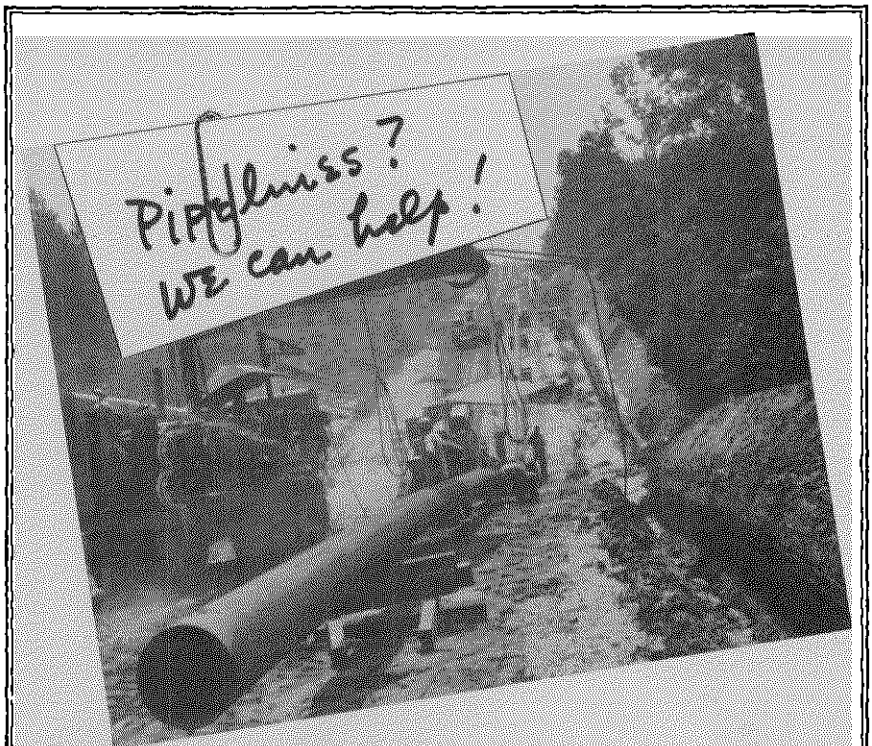
The design and manufacture of every one of these things at prices which make them available to a very large proportion of the population is the function of engineers. It may be fashionable to suggest that none of these things would be necessary if only we lived the simple life, but the fact remains that few people would willingly give up such obvious conveniences.

It is also suggested that the world is being suffocated by pollution, and is running out of non-renewable raw materials and sources of energy. As soon as pollution was recognised as a menace, it was the engineers who had to apply what solutions were possible. When particular raw materials become scarce it is the scientist and the engineer who find the alternatives. It is patently obvious that the world cannot meets its energy requirements by using wood or cow dung. Fossil fuels are currently convenient buy they will not last forever.

Scientists and engineers have developed nuclear power as an alternative. If this turns out to be unacceptable, it will still depend on engineers to develop methods for extracting energy from the sun, wind or waves or any other source.

Engineers are the creators of the modern human environment. Furthermore they are the main creators of wealth and useful employment and, contrary to popular myth, you cannot have employment without employers.

If we want a society which is free from drudgery, able to enjoy good health, with time for recreation and cultural activities of all sorts then engineering and industrial management must come to be recognised as honourable, respected and worthwhile occupations.



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Two Tulane Engineers Assist In Design of Unique Bridge

Wind velocity studies will soon be under way for the only cable-stayed bridge in the world being built in a hurricane zone—Louisiana's new Mississippi River bridge at Luling.

And responsible for placement of the highly sophisticated instruments needed for measuring the velocity of high winds, as well as testing and data-compiling equipment, are two Tulane University engineers who will help determine design of future cable-stayed bridges.

Dr. Hugh A. Thompson, dean of the university's School of Engineering and professor of mechanical engineering, and Dr. Robert N. Bruce, Jr., professor of civil engineering, are already conferring with federal and state officials on what is termed the "dynamic response to wind" of the bridge.

Now under construction, the bridge is the first of its kind in the continental United States and is to be the second longest cable-stayed bridge in the world, measuring 2,745 feet or over half a mile.

Scheduled for completion in 1980 at a cost of $200 million, the bridge differs from other bridges in structural action. The girder, explain the Tulane engineers, is essentially a continuous beam on elastic supports, and cables act as elastic springs. Diagrams for cable forces, girder bending moments and shears, and tower and pier reactions have been determined by engineering computer programming.

The role of Dr. Thompson and Dr. Bruce in the efficacy of the new Louisiana bridge is to study the wind velocity and how much the bridge deflects under wind pressure and then, from data collected at specified intervals over a period of several years, to determine the effect of hurricane winds up to 200 miles per hour.

During a recent meeting with principals in the Luling bridge project, the Tulane engineers agreed that the motion of the bridge deck would be monitored by devices called accelerometers at stations located at mid-span on each of the four side spans of the bridge and at the center and quarter points along the middle span, providing a total of seven stations.

These stations are to give information on the vertical and torsional motion on the bridge deck, they point out.

Each accelerometer will be connected into a channel of a data acquisition system which will be housed in a centralized control room, located beneath the bridge's center, say Drs. Thompson and Bruce.

Tower motion will also be monitored with accelerometers, as will the motion of the cable stays.

Wind climate of the bridge will be defined by means of seven instruments called anemometers.

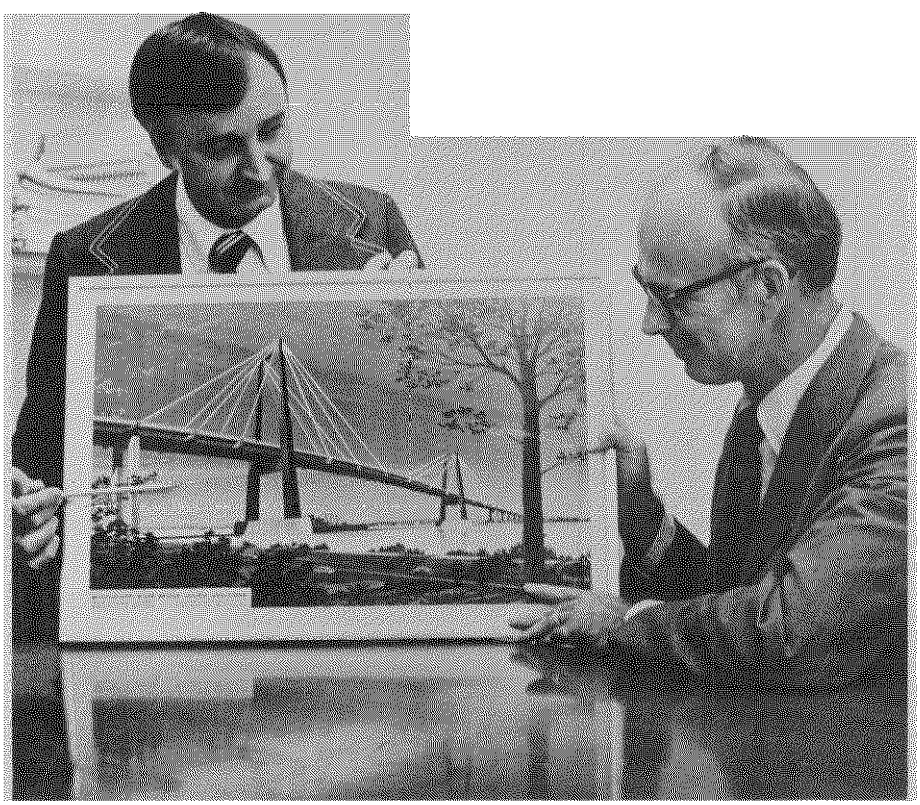
To minimize hazard of interruption in data collection in the event of vehicular collision, they explain, "conduit and leads from the anemometers on the center-line barrier and from instrumentation on the tower and cable stays will be routed beneath the bridge deck to the data collection point."

In addition to the data acquisition system in a room beneath the deck, Dr. Thompson and Dr. Bruce will have a unique kind of trolley car running along a track just under the bridge, which will be 400 feet in the air, or as tall as One Shell Square. Using the trolley, they will ride the length of the bridge, monitoring and checking equipment with the assistance of Tulane engineering students.

Busy determining the equipment needed and deciding about instrumentation, they will be responsible for supervising installation of the measuring devices and testing and accepting the instruments to be used.

Both Dr. Thompson and Dr. Bruce have conducted numerous studies on design of structures for extreme winds and are responsible for short courses on this topic presented annually by Tulane's School of Engineering.

Prior to the hurricane study con-



New cable-stayed bridge under construction at Luling is being studied by Dr. Robert Bruce, left, professor of civil engineering at Tulane University, and Dr. Hugh Thompson, dean of the university's School of Engineering, in preparation for installation of equipment to conduct wind studies for hurricane research. The Tulane engineers have assisted in selection and design of equipment and systems to be used in their study, as well as monitoring and data collecting processes.

tract with the university, they assisted state and federal representatives in decision-making processes concerning the Luling Bridge equipment.

Instrumentation is approximately 90 percent designed, they add.

Citing the simplicity of erecting cable-stayed bridges, especially over deep waterways, both Tulane engineers point out that there is a clear advantage in this type of bridge. A cable-stayed bridge, they say, is economical in use of material, is dramatic in appearance and offers a wide variety of design choices.

The cable-stayed bridge has been successfully used in Europe, they comment, adding that an innovative cable-stayed bridge is now going up in Dusseldorf, Germany, at a point where traffic on the Rhine is heavy. It will eliminate piers of an older bridge which have proven to be dangerous to riverboats and barges.

Tulane University is preparing for the Louisiana Department of Highways a proposal detailing its participation in supervising the initial installation of the wind study system, as well as its continuing operation. In the initial stages, they say, "this will consist, in collaboration with the Federal Highway Administration, of installation of sensing elements, the attachment of interconnections to components and system de-bugging.

"On the continuing basis, this will consist of approximately bi-weekly system checks and replacement of magnetic tapes, data reduction, data analyses and documentation of findings."

Dr. Thompson and Dr. Bruce are concerned about phenomena associated with actions of wind on structures from two principal applications:

(1) Application to structural design practice where achievement of economical structures is a principal objective.

(2) Application to disaster mitigation activity where protection of people and preservation of structural function are major objectives.

The Luling bridge will be a primary crossing tying into Interstate 410 in St. Charles Parish and is designed to allow vehicular traffic to bypass traffic to head west.

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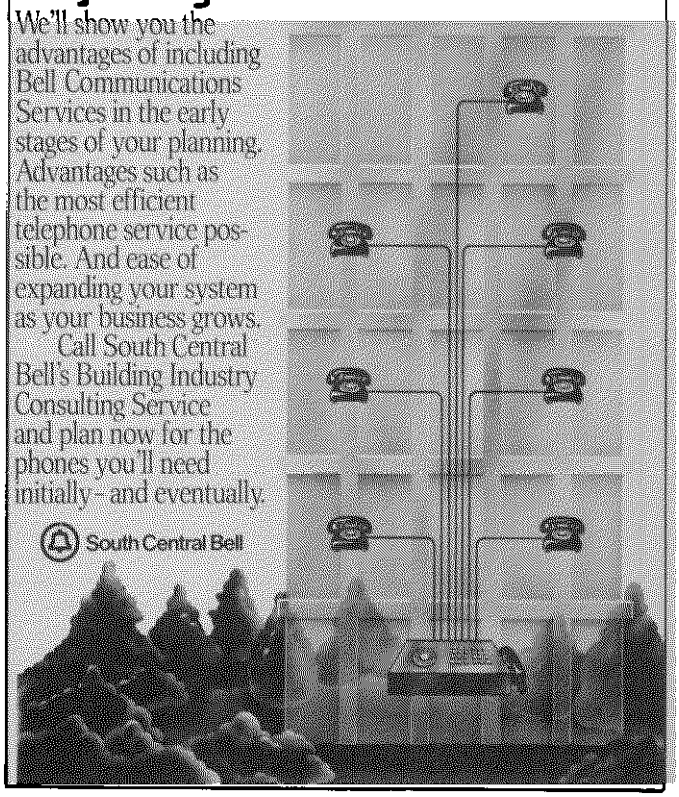

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From Your Executive Secretary R. C. "DOC" SPEARS



LES Well Represented at NSPE Winter Meeting

LES was well represented at the NSPE Winter Meeting in Houston January 17-22. Those attending were: **E.E. "Buddy" Moncla, P.E.**, and **Marvin Firmin, P.E.**, for PEC; **Arthur DeFraites, Jr., P.E.**, for PEPP; **Carroll Fuselier, P.E.**, for PEI; **A.J. Szabo, P.E.**, and **James S. Janssen, P.E.**, National Directors; **Waldemar S. Nelson, P.E.**, Incoming Vice President for the Southwestern Region; and **R.C. Spears**, Executive Secretary. **A.J. Adoue, P.E.**, and **Jerrel Freeman, P.E.**, from the New Orleans Chapter attended to observe the overall meeting. New Orleans will host the NSPE Winter Meeting next January 23-28.

Dudley Hixson, P.E., LES Membership Chairman, and **James L. Meyer, P.E.**, LES President, came to the meeting on Friday, January 21 to receive the NSPE Membership Plaque for LES.

The following ladies accompanied their husbands and enjoyed the NSPE meeting: Mmes. Janssen, Nelson, Szabo, Moncla and Spears.

Over 400 engineers and about 200 spouses from every state in the nation attended the meeting.

LES Wins 1976 NSPE Membership Contest

In the NSPE membership contest that ended November 30, 1976, LES won in Group IV (states with 800 to 1,099 members) with 105 new NSPE members for the year. Our nearest competition in the contest was Colorado with a gain of 94 new members. This is a "first" for LES, and all Chapters, membership committees and members have done a great job bringing this well deserved recognition to the Society.

The winners of the other five groups in the contest were Guam, Idaho, Arkansas, Kentucky and Illinois. Forty states were in the plus column.

NSPE Annual July Meeting at Disneyland

The California Society of Professional Engineers has requested that we publicize the July NSPE meeting to our members. It will be held July 11-17 at Disneyland. Plan your vacation around this event. You may pre-register and get the full package of hotel meeting information early. The early birds will have the best chance of getting accommodations at the Disneyland Hotel, with all its attractions and conveniences to Disneyland itself. Bring the whole family; there will be planned activities for all ages. For details, write: NSPE Annual Meeting, 1140 Snowberry Court, Sunnyvale, California 94087.

Engineering Versus Competitive Bidding

LES and CEC/L have retained Gray Sexton, Baton Rouge attorney, to file a brief in a lawsuit: Lafourche Parish Water District No. 1 versus 33,314, Division B, Carl Heck Engineering, Inc.

The Lafourche Parish Water District No. 1 is contending that the contract between Carl Heck Engineers and the water district is null and void since it was let without competitive bidding in violation of the Louisiana Public Contracts Law.

There is significant legal precedent in Louisiana Court cases, as well as State Attorney General's opinions, which should result in this issue being removed from contention. However, it appears in the best interest of LES/CEC to file an *amicus curiae* brief with the First Circuit Court of Appeals concerning the applicability of the Louisiana Public Contracts Law to the practice of professional engineering in the state.

We solicit assistance from all engineers and engineering societies in the state to resolve the matter favorably.

FHA-EPA Agreement for Engineering Services

The Farmers Home Administration (FHA) and the Environmental Protection Agency (EPA) have cooperated in the adoption of a new "Agreement for Engineering Services" to be used in connection with FHA projects dealing with sewerage systems in which EPA is participating.

In the January *PERSPECTIVE* we announced the availability of the agreement forms. Unfortunately, we listed the wrong telephone number. For copies of the agreement, write: State Director, Farmers Home Administration, 3727 Government, Alexandria, Louisiana 71301, or call (318) 448-3421.

Texan Named NSPE Young Engineer for 1976

Lloyd L. Piper, II, a 32-year-old civic-minded engineer employed by Dow Chemical USA, of Houston, was named "Young Engineer of the Year" by NSPE on December 19. Formal presentation of the award was made at the NSPE meeting in Houston on January 19.

Piper was selected for the national award from among 28 outstanding young engineers nominated by state engineering societies. **Dr. Eric J. Guilbeau, P.E.**, of Ruston was LES's nomination for the coveted award.

Ground Water Hydrology Seminar

The Capitol Area Groundwater Conservation Commission is planning a seminar for September 15 and 16 on the LSU Baton Rouge Campus. LES will be participating as a co-sponsor of the seminar to stress the importance of geohydrology, the design, construction and maintenance of water wells and to provide recommendations and practical guidelines that will promote practices that will conserve energy and money.

COFPAES

The Committee on the Federal Procurement of Architectural and Engineering Services conference meets in New Orleans February 24-25.

This conference in two days will bring to A/E's more federal agency representatives than ever before. The conference has never drawn less than 500 and hit its peak a few years ago in New Orleans when over 800 attended. For more information, write: NSPE-PEPP, 2029 K Street N.W., Washington, D.C. 20006, or telephone (202) 331-7020.

Donaldson of Bovay Engineers Promoted

Theodore E. Donaldson, P.E., of Bovay Engineers, Inc., Baton Rouge, has been named to associate status in the firm. Donaldson, a senior engineer who handles the firm's consulting work for a number of telephone companies—including independents, the Bell System and the federal government—has been with the firm since 1970.

Bovay is a diversified consulting engineering firm with offices in Houston, Albuquerque, Austin, Baton Rouge, Spokane and Washington, D.C.

LES Contacts Legislators in Washington

The LES president has written to our two senators and eight congressmen regarding legislative action on Section 14(b) of the Taft Hartley Act.

During the recent campaign of President Carter, it was stated that if Congress passed legislation which would repeal Section 14(b), he would sign it into law. The Society is on record supporting the right-to-work law in Louisiana. Repeal of 14(b) would remove from the state this authority. The Society requested each member of Congress to actively oppose any legislation which would repeal Section 14(b) of the Taft Hartley Act.

In addition, the new administration is on record in favor of legalizing secondary boycotts. LES opposes this move.

James L. Meyer, P.E., LES President, stressed the need for a vigilant Congress that will provide checks and balances between the Executive and Legislative branches, perhaps in a reverse role from that which has existed for the past several years.

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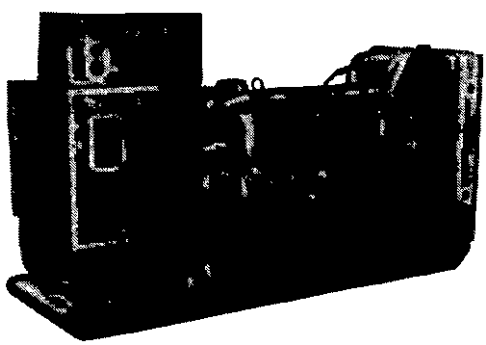

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IN MEMORIAM

William A. Cunningham

The engineering profession and the construction industry suffered a distinct loss with the passing of William A. Cunningham on November 9, 1976. His many friends knew him as "Bill" and knew that he could be relied upon in any situation where he could be of assistance. He was always willing to share his very practical knowledge of engineering and construction with those less experienced. This was especially true in his specialized field of pile driving.

Bill was a native of Ohio, where he received his Bachelor of Science in Civil Engineering degree from Ohio State University in 1939. His career after that was varied but steadily upward and included plant maintenance engineering, U.S. Army Air Force duty in World War II, highway maintenance, building construction, river navigation structures and air base construction and engineering supervision.

It was in 1953 that Bill got into the work that he loved best, pile driving. At that time he went with Raymond Concrete Pile as assistant district manager of the Philadelphia Division office. Promotions followed rapidly thereafter. He became manager of the Philadelphia District and finally was put in charge of the New Orleans District, one of Raymond's most important districts. His rapid grasp of the peculiar problems of pile foundations in this vicinity, combined with his affable manner and good business sense, caused him to be readily accepted into engineering, construction and business circles here. He was a member of the Louisiana Engineering Society, the Engineers' Club of New Orleans, the Construction Industry Association and the New Orleans Chapter of the American Society of Civil Engineers, whom he had served as president.

Bill had a long and happy marriage, being wedded to his wife Betty in 1940. He is survived by Betty and by their two daughters, Ann and Cheryl. We offer our condolences to them. Those of us who knew Bill as a fellow engineer or business associate or neighbor or just as a friend will miss him.

IN MEMORIAM

Walter Edward Richard

Walter E. Richard, P.E., of St. Petersburg, Florida, died on December 30, 1976 in Florida. He was registered as a Professional Engineer in Louisiana and has been a member of the Louisiana Engineering Society since 1957. He was formerly employed with the Mathieson Chemical Company (now Olin) in Lake Charles.

He was a consultant in engineering management and a retired executive of the American Can Company. He was born in Buffalo, New York, graduated from Lafayette College in Easton, Pennsylvania, and served as a naval officer in the Pacific during World War II.

Our deepest sympathy to his wife and family.

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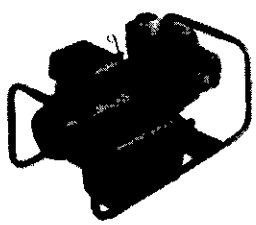

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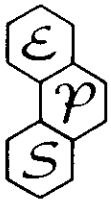

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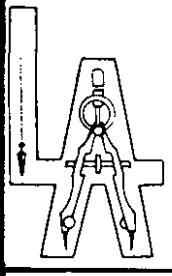

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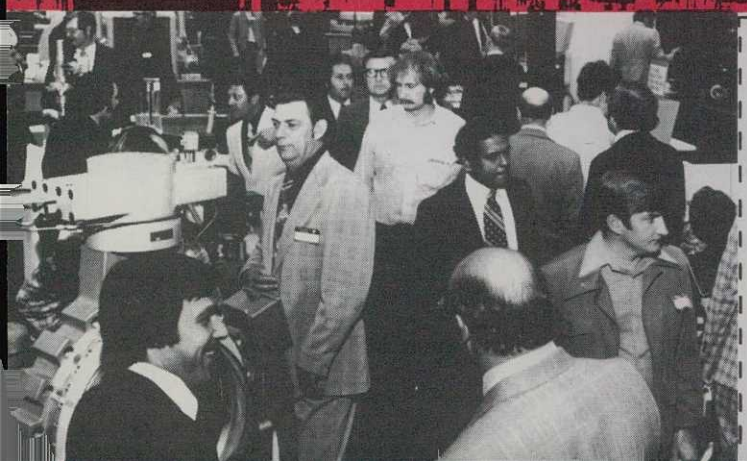

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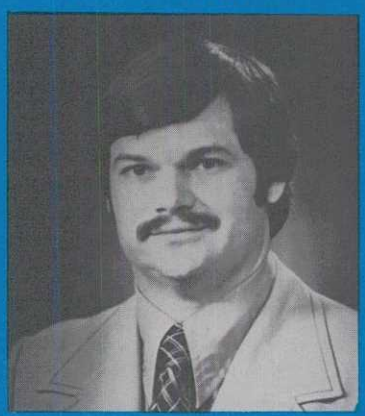
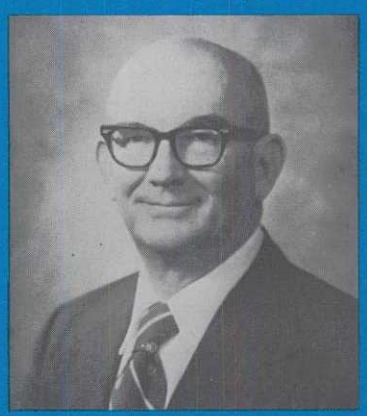


John W. Moore, P.E.

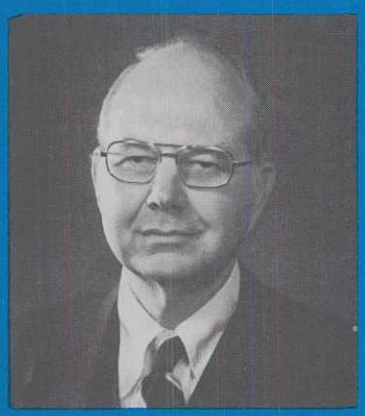
77 LES AWARDS



Waldemar S. Nelson, P.E.



Raymond E. Pillow, P.E.



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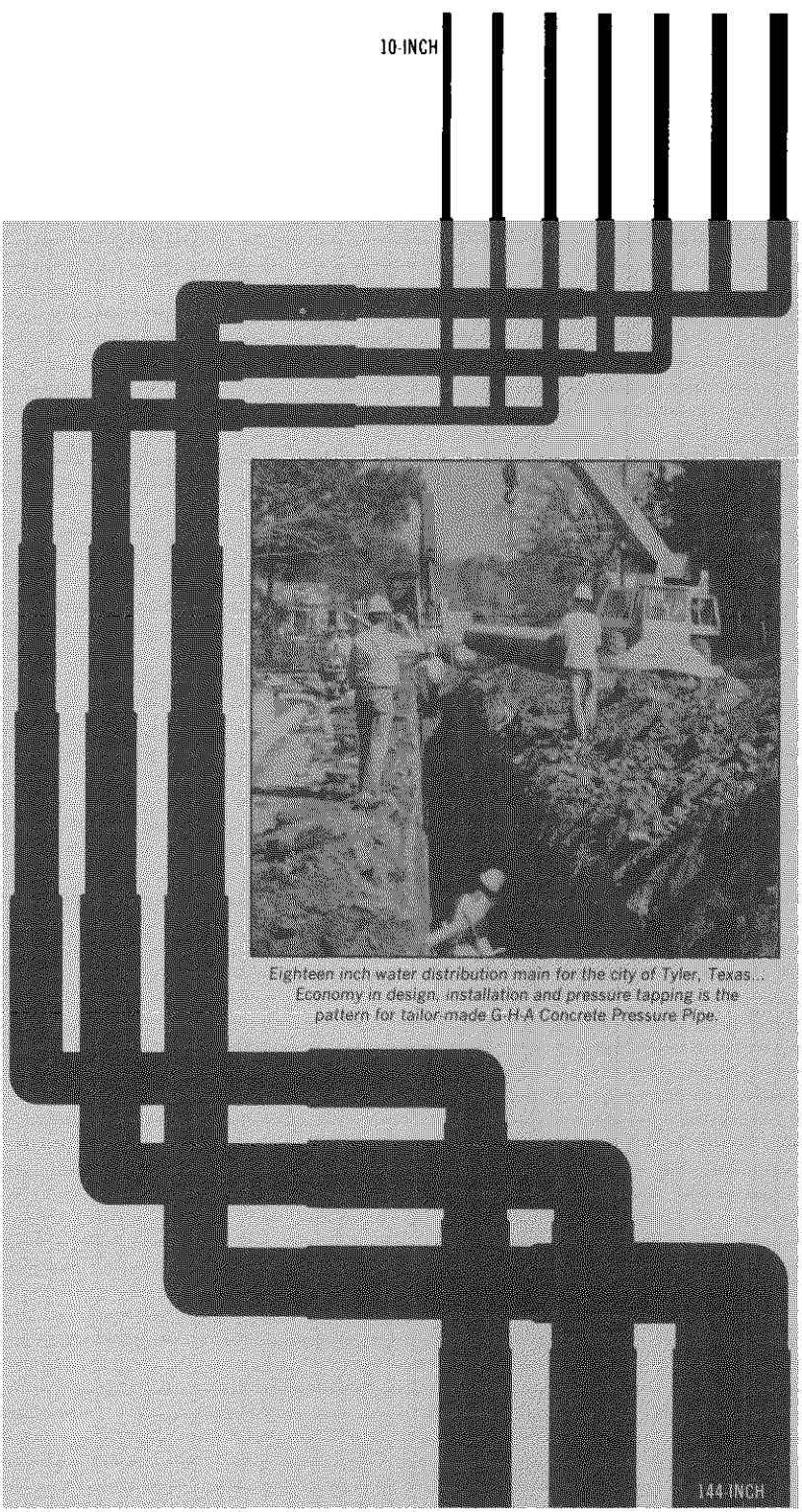

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PROGRAM

THURSDAY, APRIL 28

2:00 - 5:00 p.m.	Registration
6:30 p.m.	Early Bird Cocktails
7:30 p.m.	Seafood Dinner

FRIDAY, APRIL 29

8:00 a.m.	Opening Session
8:15 - 10:00 a.m.	Practice Division Meetings
10:00 a.m.	Council of Deans Meeting
10:15 a.m.	Presentation of Student Papers: Tulane, USL, LSU, Southern and Louisiana Tech
12:00 noon	Luncheon Mr. Ed Steimel, President of LABI, will discuss: "A Sane Policy of Taxation in Louisiana"



Edward J. Steimel

1:30 p.m.	Recreation Golf and Tennis, Ellendale Country Club Shopping, resting
6:30 p.m.	Cocktails
7:15 p.m.	LES Awards Banquet

Andrew M. Lockett Award
*Frank H. Walk, P.E.
James M. Todd Technological Award
*John C. Copes, P.E.
Leo M. Odom Award
*Waldemar S. Nelson, P.E.
A.B. Paterson Award
*Raymond E. Pillow, P.E.
F. Hugh Coughlin Young Engineer Award
*John W. "Billy" Moore, P.E.

FRIDAY, APRIL 29 (Continued)

7:15 p.m.	Awards Banquet Presentation of Industrial Professional Development Award to: Freeport Sulphur Company Recognition of Life Members Golf and Tennis Awards

SATURDAY, APRIL 30

7:30 a.m.	Men's Breakfast, Slide Presentation: "Agents of American Progress"
8:30 a.m.	LES Committee Meetings
10:15 a.m.	LES General Society Meetings
10:30 a.m.	LES Board of Direction Meeting

LADIES' PROGRAM

THURSDAY, APRIL 28

6:30 p.m.	Early Bird Cocktails
7:30 p.m.	Seafood Dinner

FRIDAY, APRIL 29

9:00 a.m.	Tour Ardoyne Plantation and bus tour of Bayou Terrebonne with lunch at Ellendale Country Club
1:30 p.m.	Recreation Golf and Tennis at Ellendale Country Club Shopping, antiquing
6:30 p.m.	Cocktails
7:15 p.m.	LES Awards Banquet

SATURDAY, APRIL 30

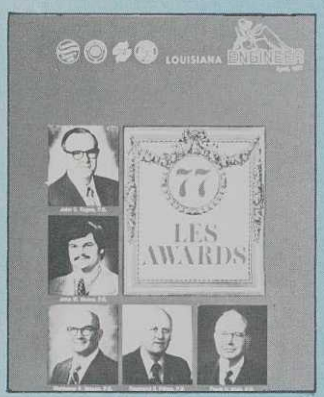
10:00 a.m. to 12:00 noon	Brunch, palmetto weaving by Houmas Indians

April, 1977

LOUISIANA ENGINEER

The LOUISIANA ENGINEER is the offical 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.

Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318.



About the Cover

Five outstanding LES members are being recognized this month for their contributions to the engineering profession. See page 6.

In This Issue

LES Annual Spring Convention 3
Presidential Privilege 5
LES Honors Outstanding Engineers 6
Mini-Baja 1977: Making Learning Fun 11
Engineers Week Activities ... 13
Potpourri 17
Vliet's Views 18
EngiNEWS 19

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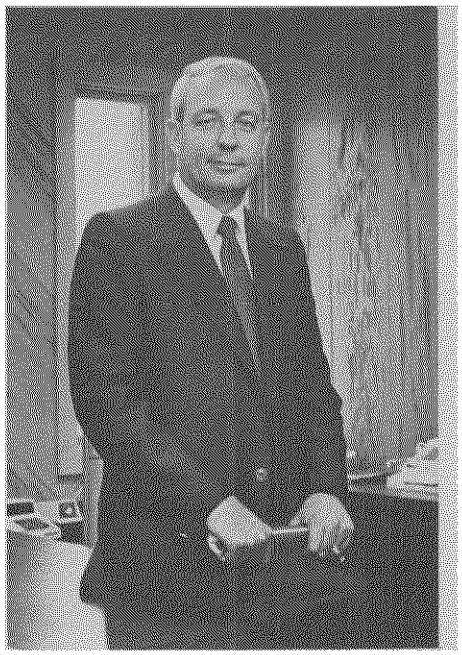

Presidential Privilege

James L. Meyer, P.E.
President, LES

Professionalism— What Does It Mean to You?

During the past several months I have had the opportunity on various occasions to address the subject of professionalism, including talking to some student groups. For a number of years my attention has been directed to the subject regularly. However, getting a handle on just what professionalism means did not really gel until this LES administrative year.

I have asked many people what professionalism means to them. The answers are as varied as the number of times the question has been asked.

I believe professionalism is an attitude that results in exhibition of those characteristics and traits which meet the standards set by a given profession. Interpretation of those standards in the engineering profession, which recognizes five practice divisions, is by no means uniform. Consequently, professionalism does not mean the same thing to all the individuals or groups.

The LES Board has adopted a policy statement encouraging the teaching of professionalism in engineering schools. The State Board of Registration has concurred in this and is also on record recommending that a course in professionalism be taught. The recommendations of these boards have been forwarded to the Council of Deans and will probably be discussed at its April meeting. But, if the recommendations are approved, what is going to be taught?

In discussions concerning the possibility of establishing LES/NSPE student chapters at various engineering schools in the state, I have heard arguments that students are too busy for additional organizations and that the benefits from student chapters are already available through technical society chapters.

In addition, I have heard statements to the effect that engineering educators, by exhibiting their own professionalism, instill a professional attitude in the students. I cannot agree that students are educated in professionalism in this way.

Neither I, nor any of my associates, nor anyone else with whom I have talked, can agree that we graduated from engineering schools with a sound background in the *profession of engineering.* Certainly we had the technical training. In matters of business ethics, and the general standards of professional conduct, there was simply a lack of training to provide comprehension and understanding.

I think an engineering graduate should have the background to be able to interpret the difference between a professional attitude and nonprofessional attitude. For example, I think he should be able to recognize a legal and ethical campaign contribution from a bribe, or an appropriate and reasonable gratuity (in the form of a nominal gift or lunch) from a kickback. Unfortunately, there are the unprincipled who can be very convincing and logical about what is right and what is wrong. The inexperienced, young engineer can be readily swayed by such seemingly rational arguments.

The education of an engineer should prepare him for the *business of engineering* as well as for solving problems by application of theoretical principles. To do less is to expose the engineer to pitfalls which could be avoided, delay his professional development, and postpone the day when we will have a homogeneous engineering profession irrespective of the various disciplines and specialties in which we practice.

I agree that we should teach professionalism in the engineering curriculum. However, reading and studying a code of ethics—without meaningful discussions and examples of the pressures that practicing engineers in private practice, construction, and industry face almost daily—will not provide the comprehension necessary. Engineers in government and education also face their own particular type of pressure, some of which are closely related to those faced by engineers in industry.

Engineering educators who have remained in the academic world since graduation are often not prepared to teach professionalism in the manner which is needed. It is my hope that, when courses are begun, the engineering schools will arrange for guest lecturers from outside the academic community. These guests must lay it on the line, not mince words, and thus prepare the students for the business of engineering, including ethics, professional liability, and acceptable professional conduct which is as practical as it is idealistic.

I also believe that student chapters with similar goals can add greatly to the preparation of students for the practical world where so many of us enjoy the gratifying challenges of a very real profession.

LES Honors Outstanding Engineers

The Louisiana Engineering Society is recognizing five outstanding members this month at the Spring Meeting in Houma. Each award is named after a present or former outstanding engineer member of the Society.

J. M. Todd Technological Accomplishment Medal

The Technological Accomplishment Medal is given for distinguished services by an engineer for technological advancement or discoveries as contributions to the advancement of engineering. Mr. Todd, president of LES in 1930, was very active in the affairs of the Society. His suggestion in 1950 of an award for engineering ingenuity prompted the adoption of the Technological Accomplishment Award in 1951. His name was added to the award in 1975.

John C. Copes, P.E.

John C. Copes is self-employed as a consulting engineer and operates a precision machine shop for the manufacture of split mechanical seals and various other products of his own design. His particular area of expertise is the sugar cane processing industry. Mr. Copes's vocation is engineering and his avocation is antique automobiles.

He grew up in Tylertown, Mississippi, was very active in Scouting and reached Eagle Scout status. During World War II, he served in the European Theater as a second lieutenant, U.S. Army Engineers. He is a recipient of the Purple Heart, Bronze Star and four battle stars.

Mr. Copes is married and has one son, a student at Louisiana Tech University. He is a 32nd-degree Mason, a Shriner and is active in the Episcopal church. He holds a BS degree in mechanical engineering from Louisiana State University.

Mr. Copes's engineering career started with the Esso Laboratories in Baton Rouge as a mechanical design engineer. Prior to establishing his own firm in 1965, he was a project engineer, chief engineer, development engineer and design engineer with several Louisiana consulting firms.

He was employed by the Ethyl Corporation from 1950 until 1956 as an assistant supervisor and development engineer. While with Ethyl, he designed and developed a new alloy-flaking machine that is still widely used for improved manufacture of tetraethyl lead. A patent issued to Mr. Copes for the sodium lead alloy-flaking machine was assigned to Ethyl.

Registered as a mechanical engineer in Mississippi, Texas and Louisiana, Mr. Copes is a member of the Louisiana Engineering Society, the National Society of Professional Engineers, the American Society of Mechanical Engineers and the American Society of Sugar Cane Technologists. He has been nominated by the Baton Rouge Chapter of ASME to become a fellow. He received a Lincoln Arc Welding Foundation Design Award in 1974.

Mr. Copes designed a split mechanical seal which eliminates much of the work involved in seal replacement and reduces equipment down time by more than 50 percent. Numerous inplant installations of the split seal have been made. Three patents have been issued to Mr. Copes on split seals and mechanical seal inserts.

Mr. Copes's outstanding achievement with split seals is a breakthrough in the industrial world and makes him a worthy recipient of the James M. Todd Technological Accomplishment Medal. The Louisiana Engineering Society is proud to honor Mr. Copes for his outstanding technological achievements.

F. Hugh Coughlin Young Engineer Award

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. Mr. Coughlin has been a member of LES since 1944. His interest in, and support of, young engineers was very instrumental in the establishing of this award. His name was added to the award in 1975.

John W. Moore, P.E.

John W. (Billy) Moore is a native of Louisiana and received his BS degree in civil engineering in 1972 from Louisiana Tech University, Ruston.

Mr. Moore's professional experience includes service as project engineer, Servitron, Inc.; general civil engineering practice on railroads and with Stephen Agency, Inc., real estate developer; and being an engineer in training with Meyer, Meyer, LaCroix & Hixson, Inc., where he is presently a design engineer.

He is a member of the Louisiana Engineering Society, the National Society of Professional Engineers, NSPE's Professional Engineers in Private Practice division, and the American Society of Civil Engineers. He was a charter member of the Civil Engineering Honor Society.

Mr. Moore has worked on many varied engineering projects including waterworks, sewerage projects, complete subdivision development, roads, drainage, bridges, excavation and embankment, and structural work on buildings.

While performing his fulltime duties as a design engineer, Mr. Moore has been active in the Louisiana Engineering Society. He has served as membership chairman and secretary-treasurer of the Alexandria Chapter and attends chapter and state meetings regularly.

Mr. Moore is married to the former Janet Miller of Crowley. They have a daughter two years old.

Billy Moore exemplifies the "climbing the ladder of professionalism" program recommended by the National Society of Professional Engineers. Since graduation he had dedicated himself to hard work and to the professional aspects of his career, achieving professional engineering registration in 1976 with a well-balanced history of education and experience.

His outstanding contributions have demonstrated, to a high degree, capabilities in engineering indicating great potential for further advancement and leadership as a professional engineer, the ideal and criteria for the F. Hugh Coughlin Award.

Continued on page 9

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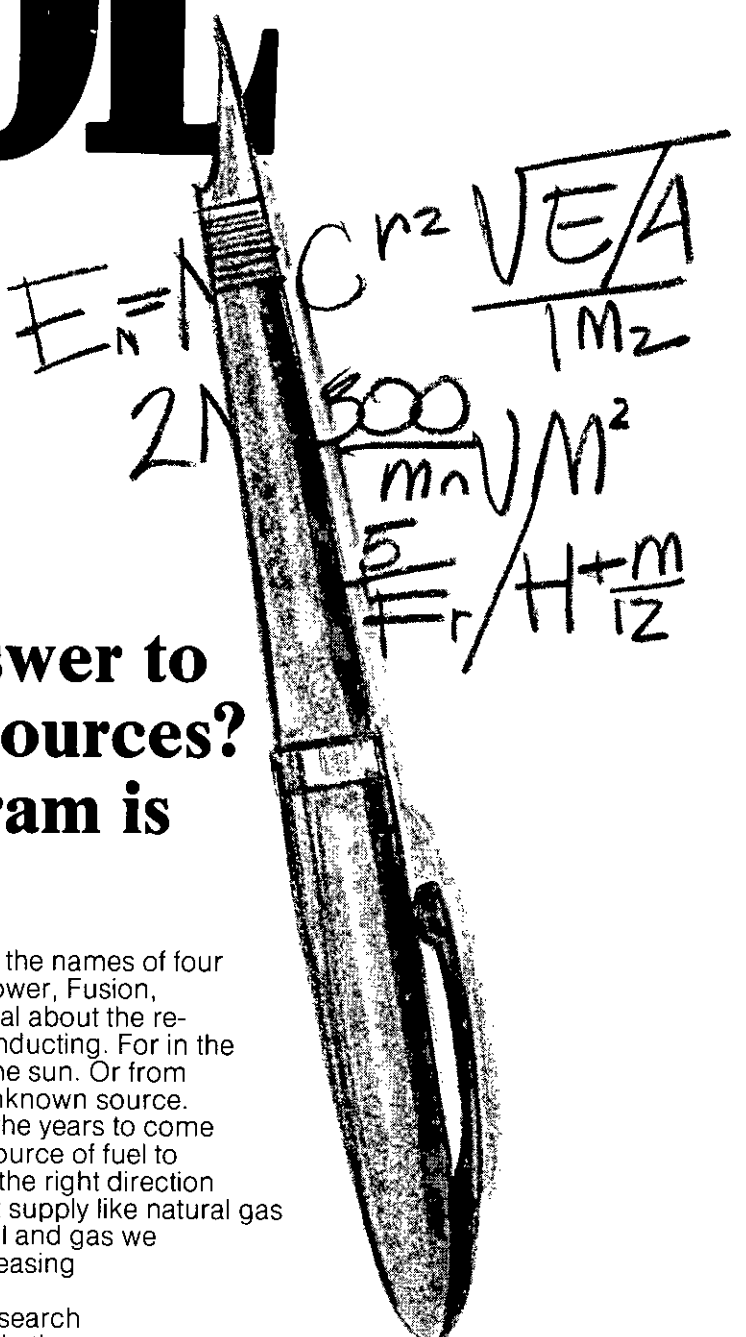

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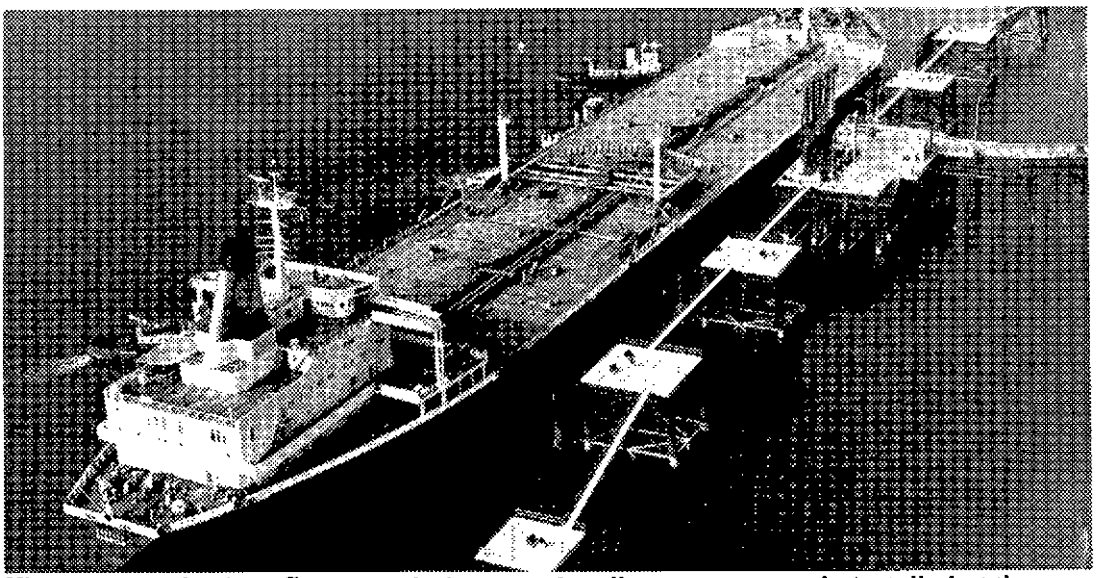

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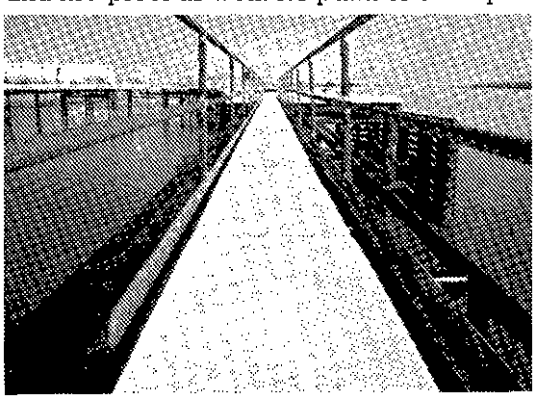

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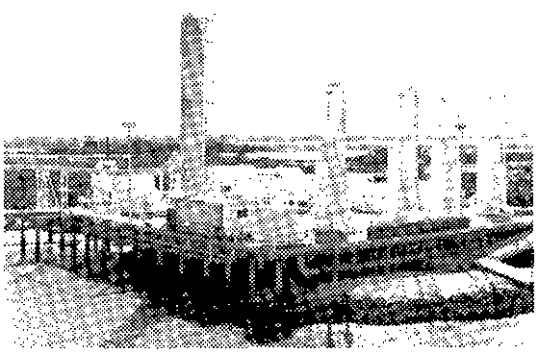

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Continued from page 6

Leo M. Odom Award for Professional Services

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 Society over a period of long duration, who has demonstrated leadership in technical societies and other professional engineering groups.

Waldemar S. Nelson, P.E.

Waldemar S. Nelson is a native of New Orleans. After attending New Orleans public schools, he entered the College of Engineering, Tulane University, graduating in 1936 with a BS in mechanical and electrical engineering. Following graduation he worked as field engineer on construction projects in Indiana, Louisiana and Texas.

He returned to New Orleans in 1939 and opened his own practice as a consulting engineer. From 1941 to 1945, he was with the U.S. Army Corps of Engineers. Since 1945, he has been a principal in the consulting firm of Waldemar S. Nelson and Company, Inc. He is a civil, electrical and mechanical engineer registered in 26 states.

Very active in engineering affairs, he is a member and past chairman of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors; treasurer and member of the Board of Directors of the National Council of Engineering Examiners; past national director, past chairman of the Board of Ethical Review, vice chairman of the Southwest Region's Professional Engineers in Private Practice division; and member of the Policy Review and Ethical Practices Committees of the National Society of Professional Engineers; fellow and past chairman of the New Orleans Section, American Society of Mechanical Engineers; founder, past president and Board member, Engineers Club of New Orleans; fellow, American Society of Civil Engineers; past president, honorary member, chairman of the Publication Committee and former member of the Building, Budget and Finance Committees of the Louisiana Engineering Society; member and past president, Society of Tulane Engineers; trustee, Tulane Engineering Foundation; and member and past president, Tulane Alumni Association.

Mr. Nelson's membership in 31 professional and technical societies illustrates his wide involvement in the engineering profession.

Professional honors received by Mr. Nelson include designation as honorary member, LES; fellow, ASME; fellow, ASCE; charter honorary member, Pi Tau Sigma; member, Tau Beta Pi; recipient of the Distinguished Service Award, NCEE; Outstanding Alumnus, Tulane School of Engineering; recipient of the 1975 LES Charles M. Kerr Public Relations Award; and vice president-elect of the Southwest Region, National Society of Professional Engineers.

In his community he is vice president of the New Orleans City Park Improvement Association, member of the Economic Development Council of the Greater New Orleans Chamber of Commerce, past president of the Board of Trustees of St. Martin's Protestant Episcopal School, and chairman of the school board of St. Andrews Episcopal School.

Mr. Nelson has given distinguished service to the engineering profession in Louisiana as a member of the Louisiana Engineering Society over a period of more than 40 years. His involvement and service is in keeping with the highest ideals of the Leo M. Odom Professional Service Award.

A. B. Paterson Medal for An Engineer in Management

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. Albert B. Paterson, an active member of the Society from 1923 until his death in 1952, was an engineer, administrator, executive, banker, civic leader and humanitarian.

Raymond E. Pillow, P.E.

Raymond E. Pillow was born in Roanoke, Virginia, and attended schools there. He worked in industry before serving with the U.S. Marine Corps in the Pacific during World War II. He graduated from Virginia Polytechnic Institute in 1950 with a BS degree in civil engineering.

He served with the Engineering Department for the City of Roanoke and as assistant city engineer for six years. In 1957 he was appointed manager of the Water Department of the City of Roanoke and served in that capacity for seven years.

In September, 1964, he moved to Baton Rouge to accept the position of assistant to the general manager of the Baton Rouge Water Works Company. He became general manager in 1966 and was promoted to vice president and general manager. In March, 1970, he became the company's president, the position he now holds.

Mr. Pillow is a registered civil engineer in Virginia and Louisiana. He has served as chairman of the Honors and Awards Committee and the Vocational Guidance Committee of LES and is a past president of the Baton Rouge Chapter. He is a member of the American Society of Civil Engineers and the Southwest Section of the American Water Works Association and is a former secretary-treasurer of the Virginia Section of the American Water Works Association. He is presently serving as a member of the Board of Direction and general vice president of the National Association of Water Companies.

Mr. Pillow is active in the Downtown Lions Club. He is a member of the Broadmoor United Methodist Church, where he serves as chairman of the Administrative Board. Mr. Pillow is the father of three children. He enjoys golfing, water skiing, and dove and duck hunting.

Mr. Pillow's outstanding management ability is demonstrated by his many achievements in the water industry and by his numerous positions of leadership in civic, church and professional activities. His proven management excellence is in keeping with the ideals and criteria of the A.B. Paterson Award.

Andrew M. Lockett Medal For Civic Activities

The Andrew M. Lockett Medal is the Society's civic activities award and was first given in 1951. It is named to honor Andrew M. Lockett, a

Continued on page 10

OUTSTANDING ENGINEERS
Continued from page 9

member of LES from 1900 until his death in 1945.

Frank H. Walk, P.E.

Frank H. Walk is president of Walk, Haydel & Associates, Inc., a multi-discipline organization with over 300 engineers and technicians specializing in complete industrial plant design, overall project management, environmental engineering and construction management.

Mr. Walk received a BS degree in mechanical engineering from Louisiana State University in 1942. He served as a commissioned officer in the U.S. Army Corps of Engineers from 1942 to 1946, advancing from second lieutenant to colonel. He is a registered Professional Engineer in several states in both mechanical and civil engineering.

Mr. Walk has been a prime mover in the industrial and economic development of the greater New Orleans metropolitan area for nearly 20 years. He has been named one of the 30 key decision-makers in New Orleans by the Chamber of Commerce of the New Orleans area.

Serving as vice president for economic development of the Chamber of Commerce, chairman of the Board of the Economic Development Council of the New Orleans area (seven parishes including Orleans) and member of the Committee of "50" of New Orleans, he has worked aggressively to remove obstacles to the expansion of existing business and industry.

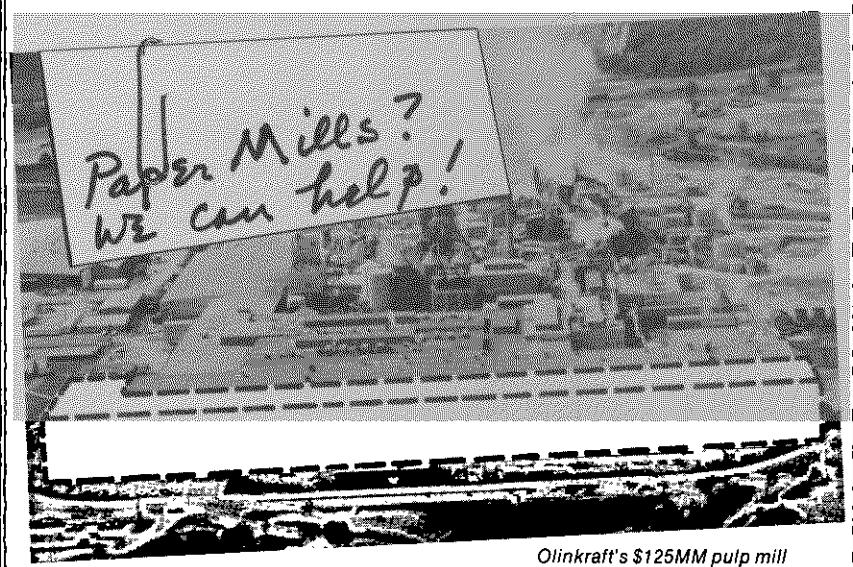
He has also actively solicited and encouraged other businesses and industries to locate in the New Orleans area. He is the author of "Action 80," a program for the economic development of the seven river parishes in the period 1976-80.

He has served as chairman of the New Orleans section of the American Society of Mechanical Engineers, president of the Louisiana Section of Professional Engineers in Private Practice, director of the Louisiana Engineering Society, president of the Serra Club of New Orleans (an organization dedicated to the promotion of vocations in the priesthood), and president of the Investors Club of New Orleans.

Mr. Walk is an active member of the Holy Name of Jesus Catholic Church, the LSU Foundation, the National Society of Professional Engineers, the American Society of Mechanical Engineers, the American Society of Civil Engineers, the Instrument Society of America, the American Petroleum Institute, Tau Beta Pi, the American Water Works Association, the Louisiana Engineering Society, the Association of the United States Army, the New Orleans Metropolitan Area Council, the Mississippi Engineering Society and many other civic and social organizations. He is listed in the Engineers Joint Council's "Engineers of Distinction" and in several "Who's Who" directories.

Mr. Walk, his wife Connie and their five children live in the uptown section of New Orleans.

Mr. Walk's service to his community and profession have truly qualified him for the Andrew M. Lockett Award. His involvement is an inspiration to the engineering profession, and the Louisiana Engineering Society is proud to honor this distinguished engineer.



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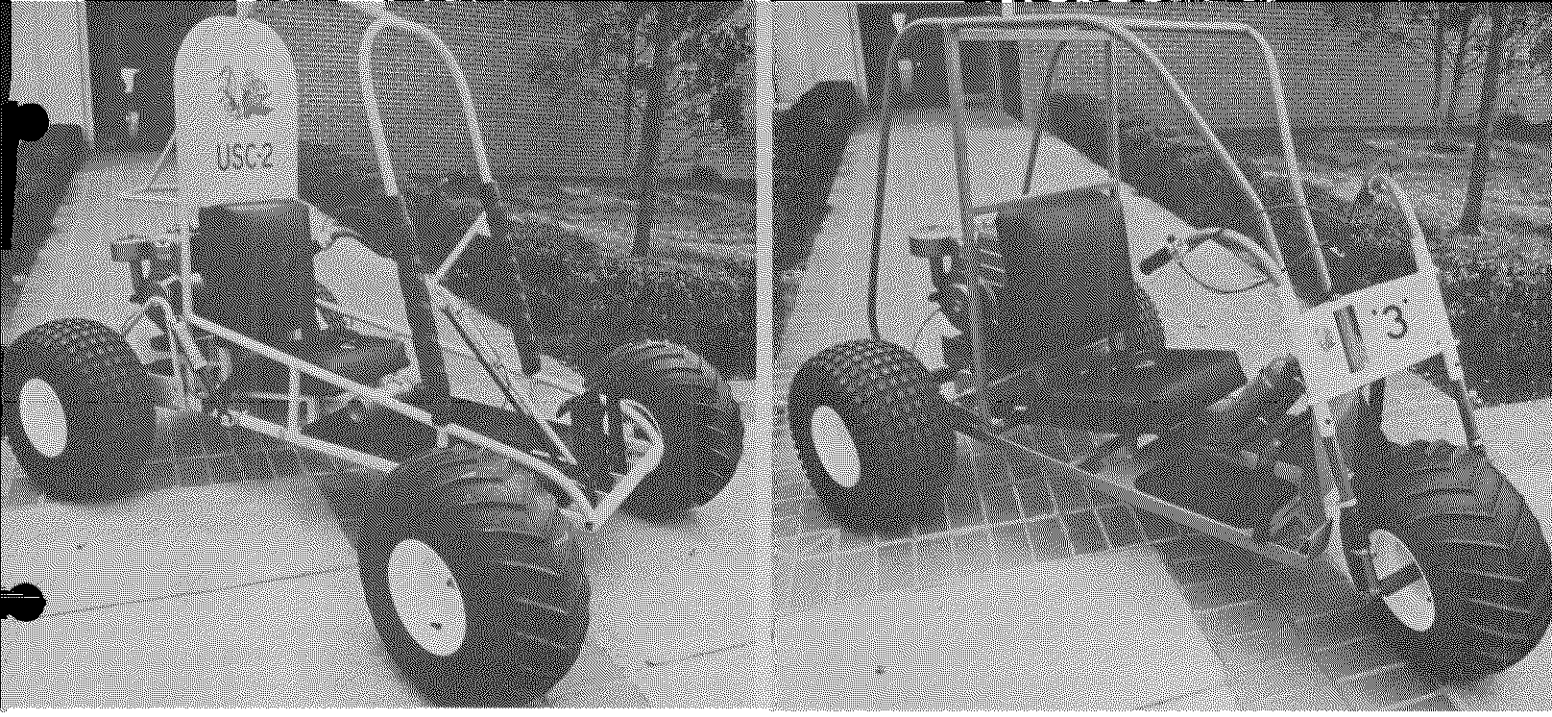

Mini-Baja 1977: Making Learning Fun

John F. Stephens

EDITORIAL NOTE: *Dr. John F. Stephens, associate professor of mechanical engineering at the University of Southwestern Louisiana, is a newcomer to the state, having joined the USL faculty last fall after teaching engineering at the University of South Carolina, Miami University and the University of Cincinnati. He is the recipient of the American Society of Mechanical Engineers' Gold Medal, the highest national award given to a young engineer. He has also received the Ralph Teetor Award from the Society of Automotive Engineers for excellence in teaching. He holds two patents and is vitally interested in programs that increase the industrial readiness of engineering students.*

Introduction

Many graduating engineers experience a discontinuity between the content of their formal engineering education and the expectations of their industrial employer. Industry suggests that approximately 18 months of additional training is required before a recent graduate can perform up to expectations.

The discontinuity continues to exist because of the difficulty in assessing all the needs of industry and then incorporating them into an educational program that possesses both breadth and depth. To date, most attempts to remedy the situation seem to fall under one of three categories:

Cooperative Programs. These programs involving alternate work-study have been in existence for at least 40 years. While some have had their successes, the value of this approach seems to be a function of the corporate employer. The student sees only the employer's approach to engineering and manufacturing—which may be good or, in some cases, not representative of industry in general.

Integrated Industry/University Design Programs. Problems submitted by industry are given to students to solve, either as a degree requirement or as elective credit. Several complaints have been leveled against such programs: (1) the nature of the problem is quite often too specific and not suited for the general education process, (2) the problem solution time may not fit well into the quarter or semester, and (3) the grading of the project solution presents some problems.

Design Case Study Classes. Another popular approach is to offer courses in which case histories of specific design projects are studied in detail. Proponents feel that the student can view the design process with all its decisions in a time frame compatible with the academic system.

It is seldom, however, that a final project report is truly representative of many of the decisions made during the design process. Hindsight definitely influences such reports. Finally, this approach does not permit the student to actually participate in the design process. The "hands-on" feature is still missing.

Defining the Problem

Not satisfied with any of the approaches reviewed above, the College of Engineering at the University of Southwestern Louisiana set out to question industries located in the South in an attempt to learn what *basic* deficiencies a recent graduate might have.

While many industries reported the deficiency of much specific information common only to their types of industry, we learned that certain blocks of basic academic information seemed to be missing from the graduates' wealth of knowledge. For example, unanimously, industry felt that the graduates' awareness of the importance of manufactureability to the basic design process was very limited.

Other areas of deficiency mentioned were design economics, familiarity with machinery, and a working knowledge of manufacturing processes. In addition, we were told, some graduates found it hard to make decisions; design compromise was difficult for them to accept; and often they found it hard to work together toward a common project goal.

A Project to Bridge the Gap

Armed with the results of the industrial response, we set out to implement a *required* design project whose successful completion would

Continued on page 12

Continued from page 11

represent a reasonable step in satisfying industries' complaints. The project was to involve a problem interesting to a large group of students and possess many conflicting design specifications to promote creativity. Yet included in the project were to be rigid time and cost constraints which would emphasize manpower usage, material selection, and manufactureability.

The decision was made to incorporate this project into a required mechanical design course in such a manner that the students would learn the balanced method of mechanical design used in industry rather than the approach based only on theoretical stress-analysis techniques. Implementation of these thoughts resulted in an all-terrain vehicle race named Mini-Baja.

Competition Rules

There are approximately 10 corporations presently marketing all-terrain vehicles. Several of these manufacturers produce a one-man version whose retail cost is approximately $900. These vehicles do not possess amphibious capability but are able to negotiate water up to 12 inches deep, as well as very rough terrain, with a great deal of reliability and speed. These companies estimate the production cost of their eight-horsepower model to be $550.

The purpose of Mini-Baja 1977 is to introduce engineering students to practical industrial design by engaging in a design competition. The object of the competition will be to design and fabricate a one-man, all-terrain vehicle, having more than two wheels, that will be completely competitive with the manufactured versions from the standpoint of safety, appearance, design, performance and cost. In simplest terms, the students have been told to "design the most competitive vehicle for the least cost."

Design Constraints

A. General Design Considerations

1. Visually appealing to buying public.
2. Enjoyable to operate because of its performance.
3. Reliable (to reduce warranty work and consumer complaint).
4. Manufactureable with standard machine tools and materials using predominantly semi-skilled employees..
5. Able to return a good profit to the company.

B. Specific Design Constraints

1. Each design group will use the same eight-horsepower, four-cycle horizontal shaft air-cooled engine. This engine must remain completely stock.
2. Each vehicle will represent the product of approximately 300 man-hours.
3. The vehicle must be capable of carrying a 6'3'' adult weighing 250 pounds.
4. The vehicle must be capable of operation in loose sand, mud, rough terrain, and occasional water up to 12 inches deep.
5. The vehicle must be capable of climbing a 30-degree incline.
6. The vehicle must have a top speed of approximately 40 miles per hour.
7. The weight of the vehicle should be less than 400 pounds.
8. The total vehicle must have a true manufactured cost of $550 or less, based upon a production run of 4,000 units per year.

The Competition

Each vehicle will be judged in the following manner:

1. General Appearance—such factors as aesthetic beauty, attention to detail, neatness.
2. Safety—an important facet of this competition. A designer is liable for negligence in design as it affects passenger safety.
3. Design and Creativity—including factors such as new design concepts, design improvements, unusual manufacturing techniques.
4. Performance
   (a) Hill Climb—elapsed time from the bottom to the top of a hill with about a 30-degree incline.
   (b) Acceleration—elapsed time from the start to finish of a 100-yard straight course (a drag race).
   (c) Maneuverability—elapsed time through a sports-car-rally-type course except that the terrain will be very rough.
   (d) Reliability and Overall Performance—15 laps around a one-mile rough terrain course will be used to test the reliability of the vehicle and the driver's skill.
   (e) Drawbar Pull—each vehicle will pull against a weighted sled.

The relative importance of all the above events is calculated as follows: general appearance, five percent; safety, 10 percent; design and creativity, 20 percent; hill climb, 10 percent; acceleration, five percent; maneuverability, 10 percent; reliability and overall performance, 20 percent; drawbar pull, five percent; and cost, 15 percent.

For general appearance, safety, and design and creativity, from zero to 100 points are awarded to each vehicle based on the decision of the judges. The 10 judges are chief engineers and high administrative officials from large corporations located all over the United States.

Points for hill climb, acceleration, maneuverability, and reliability and overall performance are calculated as follows: On a points-awarded versus time-for-completion graph, award 100 points to the first-place finisher and 20 points to the last-place finisher. A straight line between these two points provides the score for those vehicles finishing in between.

Summary

The inclusion of a simulated industrial design and fabrication project in the mechanical engineering curriculum seems to increase significantly the industrial readiness of the engineering student. This idea has found acceptance at other universities, and as a result 15 other mechanical engineering programs will enter this competition along with USL: University of South Florida, Florida Technological University, Stevens Institute of Technology, University of Detroit, University of Cincinnati, Tennessee Technological University, Southern University, Louisiana State University, University of Alabama, Auburn University, University of Houston, Rice University, Lamar University, Mississippi State University and Arizona State University.

On May 17 and 18, the Mini-Baja 1977 Competition will be held in Lafayette, with the participating institutions entering a total of 21 vehicles to determine who indeed has built "the most competitive vehicle for the least cost."

Local Chapters Observe National Engineers Week

Engineering societies all over the United States observed Engineers Week February 20-27 with special meetings, social and professional gatherings and public information programs. Each of the special events helped to further this year's theme, "Engineering . . . Key to the Future."

At the national level, representatives of the National Society of Professional Engineers suggested convocation of a White House Conference on Energy when they met with President Jimmy Carter February 20. The suggestion was made by NSPE President Edward E. Slowter and the society's executive director, Paul H. Robbins.

Members of the Louisiana Engineering Society also observed the week with a flurry of special activities including:

Alexandria Chapter

The mayors of both Alexandria and Pineville helped to promote Engineers Week by proclaiming the observance in their communities. News articles were released to area newspapers and several chapter members gave speeches at area high schools.

The Engineers Week Banquet featured an address by the commissioner of the Department of Agriculture, Gilbert Dozier. Other highlights included presentation of certificates to six high school students selected Engineer-For-A-Day and presentation of certificates to the five Louisiana NSPE Scholarship Contest finalists.

The Alexandria Chapter and the student chapter at LSU-Alexandria exchanged presentations at the banquet—with the student chapter receiving its charter and the Alexandria chapter receiving an appreciation plaque from the students. The students' plaque was in appreciation of the chapter's help in advancing engineering activities at LSU-A.

The Engineer-For-A-Day certificates were presented by Wayne Staton, the finalist certificates by Ronnie Paul, the student charter by James Meyer and the appreciation plaque by Jimmy Hickman.

Baton Rouge Chapter

Radio and television interviews highlighted the Baton Rouge Chapter's activities during Engineers Week and portrayed the involvement of engineers on the national, state and local levels. Television interviews during the week featured Ralph Crosby, Wendell Shiflett and Bill Bailey. A radio interview featured Shiflett, Charles Hair, Jr. and Larry McKee.

Dr. Paul W. Murrill, himself a chemical engineer before becoming an LSU administrator, was keynote speaker at the Engineers Week Banquet held February 24. More than 300 people attended the event, which was held at the student union building on the LSU campus.

Rounding out the week's observance in Baton Rouge were articles in five local newspapers, distribution and display of posters throughout the city and a proclamation recognizing the week by East Baton Rouge Mayor-President W.W. Dumas.

Bayou Chapter

One of the most impressive activities undertaken to promote Engineers Week was publication of an eight-page newspaper supplement in the Houma *Daily Courier*. The supplement was a project of the LES Bayou Chapter and contained photographs and text describing engineering projects designed and constructed by area engineers.

The chapter also held a banquet featuring Rep. Billy Tauzin as guest speaker. The banquet was attended by numerous students from the School of Engineering at Nicholls State University.

The chapter was successful in obtaining proclamations observing Engineers Week from three police juries in parishes covered by the chapter. The week's activities were coordinated by Jim Guion, Engineer Week chairman and Bayou Chapter second vice president.

Lafayette Chapter

Bob Jones, former state senator from Lake Charles, was guest speaker at the Engineers Week meeting sponsored by the Lafayette Chapter. Representatives of other engineering groups were invited to attend, including the American Society of Chemical Engineers, the

Continued on page 14



A new student chapter at LSU-Alexandria received its charter during Engineers Week. The officers and faculty advisor are, left to right, Kieth Hillman, Student Government Association representative; Joe Shannon, treasurer; Kerry LaBauve, faculty advisor; Jimmy Hickman, president; Nancy Hill, vice president; and Kim Mitcham, secretary.

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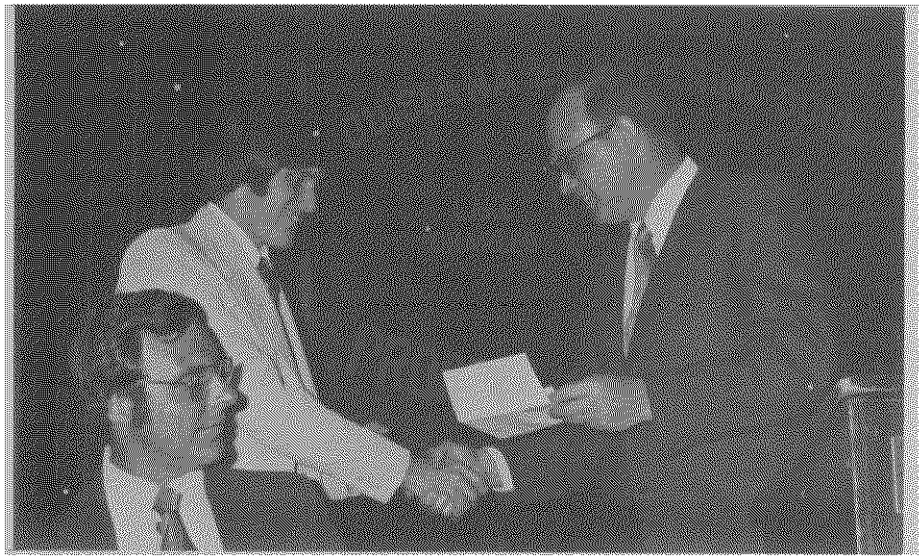
ENGINEERS WEEK
Continued from page 13

American Society of Civil Engineers, the American Society of Mechanical Engineers, the Institute of Electrical and Electronics Engineers, Inc., the Society of Petroleum Engineers and the American Institute of Mining Engineers.

Other noteworthy events at the meeting included presentation of a book for the USL Engineering Library to Dean Reeves and presentation of a gavel to F. L. Larue, in recognition of his service as past president of the Lafayette Chapter. The book was presented by Mrs. Leroy Barber, president of the Ladies' Auxiliary, and the gavel by Chapter President Bob Bright.

Bryant L. Chapman, a high school senior from Delcambre, was presented a certificate for being a state winner in the NSPE Scholarship Program.



Curtis E. Dyle, president of the Lake Charles Chapter, presents the Outstanding Senior Award to Damien Lamendola.

Lake Charles Chapter

Seventy students from McNeese State University were among the approximately 250 people attending the Engineers Week Banquet sponsored by the Lake Charles Chapter. The meeting was held February 29 and the students, members of the McNeese student chapter of LES,

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Mrs. J. F. Williams, on behalf of the Lake Charles Chapter's Auxiliary Scholarship Committee, presents the Outstanding Junior Award to Jeanne M. Hutsell.

were sponsored by area industries and suppliers.

Speaker for the banquet was Dr. Richard A. Matula, dean of engineering at LSU. Awards presented included Damien Lamendola, Outstanding Senior Award; Jeanne M. Hutsell, Outstanding Junior Award; and James N. Collins, Mechanical Engineering Award.

Monroe Chapter

"Engineer for a Day" activities, including a noon luncheon, highlighted Engineers Week observances in Monroe. High school guidance counselors said they especially appreciated the event, which introduced area students to the engineering profession.

An evening meeting at Louisiana Tech was well attended, thanks to the leadership of Dr. Dan Reneaux, P.E., and the assistance of the Ladies' Auxiliary in telephoning the entire chapter's membership.

John Edmonds received a $400 scholarship as the outstanding Louisiana Tech engineering student. Certificates were presented by Grover Trammell, P.E., chairman of the chapter's Vocational Guidance Committee, to Joanne Galli and Charles M. Robinson, who were state winners in the NSPE scholarship program from the Monroe Chapter.

Coverage of the chapter's activities was carried by local media.

New Orleans Chapter

Members of the New Orleans Chapter observed Engineers Week February 6-12 to avoid conflicting with Mardi Gras, but the week was as much a success there as it was elsewhere later in the month.

Acting in concert with other engineering societies in the area, the

Continued on page 16

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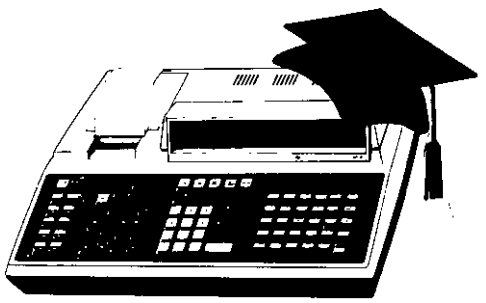

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ENGINEERS WEEK

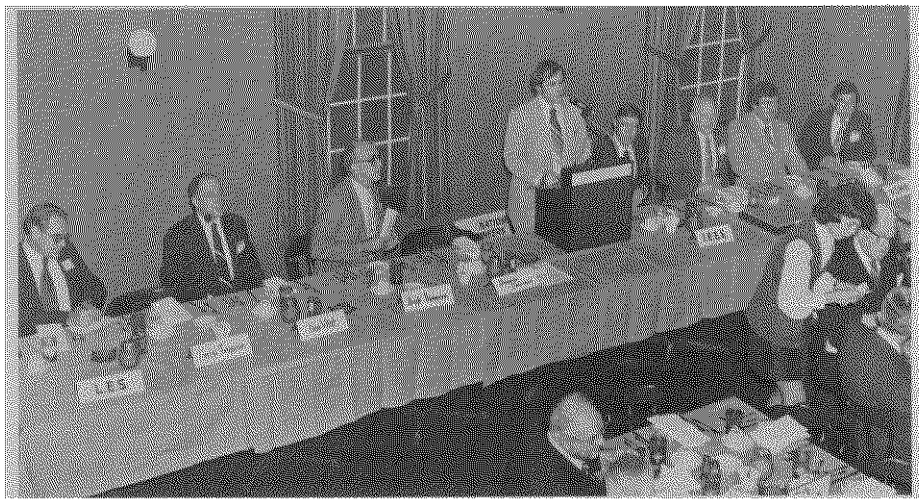
Continued from page 15

New Orleans Chapter helped sponsor a banquet and a "Consumer Products Safety Show." The show featured displays of nuclear energy, smoke detection systems and the history of the incandescent lamp.

Dr. Hugh Thompson, dean of engineering at Tulane University, was keynote speaker at the banquet. He said engineering educators must develop new standards to reflect the changes in the national energy picture.

Other speakers were Dr. Dan Vliet, executive secretary of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors, and George R. Ferguson, placement director for LSU's College of Engineering and Business Administration.

In a related activity, Ben Z. Segall and William A. Dries were inducted into an honorary group, The Pioneers, for their 50 years service to the electrical industry.



The New Orleans Chapter observes Engineers Week with a banquet.

Shreveport Chapter

A banquet February 25 was the highlight of the Engineers Week observance by the Shreveport Chapter. About 270 engineers and spouses attended the event, which was coordinated by the Engineering and Scientific Council of Shreveport.

Activities for Engineers Week in the Shreveport area included:

—Presentation of the Engineer/Scientist of the Year Award to Dr. Don Reneau Jr.

—Presentation of Outstanding Society Member Awards to Charles H. Eden, Society of Plastic Engineers; C. J. Haydel, Society of Manufacturing Engineers; J. C. Allen, Institute of Electrical and Electronic Engineers, Inc.; and William H. Harrison, American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.

—Issuance of proclamations observing the week by the mayors of both Shreveport and Bossier City.

—Administration of JETS tests to area high school students.

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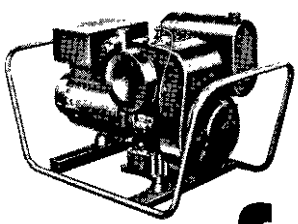

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Potpourri

From Your Executive Secretary R. C. "DOC" SPEARS



Engineers Section Board Balloting Near

The LES committee charged with filling vacancies on the State of Louisiana Engineers Selection Board recommended nominees to the LES Board of Direction on March 25.

Rules require that the Louisiana Engineers Selection Board be composed of seven members, two of whom shall be named in an election conducted by the Louisiana Engineering Society at which all properly licensed engineers residing in the state may vote for positions to be filled. LES has two positions to fill this year, one with a term from July 1, 1977 to June 30, 1978, and one with a term from January 1 to December 31, 1978.

The ballots should be mailed to all registered engineers in the state in May. Space on the ballot will be provided for write-in candidates. A write-in candidate must be a Professional Engineer registered in Louisiana and must have agreed to serve if elected. No member or firm of which a member is an associate, employee, or stockholder shall be eligible to receive agency contracts during the term of his service and for a period of two years thereafter.

Unionism vs. Professionalism Aired At Louisiana Tech Seminar

The student regional conference of the American Society of Civil Engineers was held March 18-19 at Louisiana Tech University in Ruston.

Student papers were presented. A highlight of the meeting was a panel discussion on engineers and unionism, **Dr. Joe Wilson**, head of the civil engineering department, acted as moderator. **Dr. Ron Thompson**, president of the Teachers Union, gave the union's viewpoint, and **Lamon Moody, P.E.**, LES member, gave the professional's viewpoint.

Dr. Thompson stressed th well-being of members in unions, employees' need for help, and organized strength for political action. He contended that the good in unions far outweighs the bad.

Moody outlined the ingredients of professionalism as defined in tradition and the Taft-Hartley law. Many of these basics are in direct conflict with the union approach, he said, adding that the future of engineering is in professionalism, not unionism. The two will not mix, he concluded.

C.Z. Breaux, P.E., was the guest speaker at the banquet. He is a recognized raconteur of Cajun stories and all his jokes were rated G.

Dr. Bobby Price, P.E., of Louisiana Tech's civil engineering department was overall chairman of the conference.

NASA/Alabama Society Symposium

The Huntsville Chapter of the Alabama Society of Professional Engineers and NASA's Marshall Space Flight Center are jointly sponsoring a Symposium, "Engineering and Productivity Gains from Space Technology." There will be no registration fee, and published proceedings will be mailed to all attendees.

The Symposium will consist of four half-day sessions:

Wednesday, May 11—A.M., Session I—"Energy"
P.M., Session II—"Materials and Processes"
Thursday, May 12—A.M., Session III—"Earth Observations"
P.M., Session IV—"Electronics"

There will be a banquet Wednesday night, May 11, at the Redstone Officers' Club adjacent to the auditorium. There will be no charge for the banquet.

Further information may be obtained from **Aubrey D. Smith**, code AT01, George C. Marshall Space Flight Center, Alabama 35812, or by telephoning 205/453-2223.

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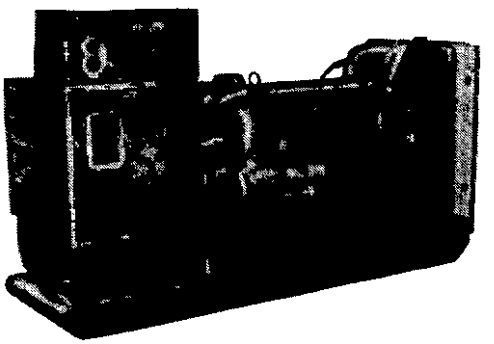

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Vliet's Views

Daniel H. Vliet
Executive Secretary
Louisiana State Board of Registration for Professional Engineers and Land Surveyors



At the last session of the Legislature a bill was passed to provide for the termination of the Board of Registration for Professional Engineers and Land Surveyors. This act, known as a "sunset bill," is similar to legislation that has been passed in Colorado, Florida and Alabama and to bills under consideration in Illinois, New Jersey, Minnesota, California and other states.

The objective of such legislation is to abolish outmoded and unneeded governmental agencies and programs. Our Board has not been singled out. All statutory entities of the state have been scheduled for termination in accordance with the provisions of Act 277 of 1976.

The Registration Board is a part of the Department of Transportation and Development and is scheduled for termination July 1, 1980, along with all of the other statutory entities that are part of the department. Under the provisions of Louisiana's "sunset law," a reviewing committee of the Legislature must give the Board at least two years' notice of its termination and begin a "zero base" budget review and evaluation.

The objectives of this review and evaluation, as stated in the law, are: (1) the elimination of inactive entities; (2) the elimination of entities which duplicate other entities or other governmental programs and activities, or an appropriate consolidation of them; and (3) the elimination of inefficient, unnecessary or ineffective entities.

In the 1979 regular legislative session a bill may be introduced authorizing re-creation of the Board of Registration. Such a bill must contain a new termination date, not to exceed four years, and be referred to the reviewing committee. In all hearings the Board will have the burden of proving a public need for its re-creation.

Upon completion of its review and evaluation, the committee presents a report of its findings to both houses of the legislature and—however it reports the bill—recommends a budget level. There is no deadline for the submission of the report on findings.

If the bill authorizing re-creation of the Board does not become law before July 1, 1980, the Registration Law is automatically repealed and no funds will be made available to the Board from any source.

The engineering and land surveying professions are concerned about "sunset laws" and have recognized the possibility of undesirable effects, both on the professions and on the welfare of the public.

Armand A. Fiorletti, in a report he is preparing for the NSPE Registration and Qualification for Practice Committee, calls attention to some of these:

1. The termination of state licensing boards would result in the deregulation of professional practice of professional engineering

Continued on page 20

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EngiNEWS

Spears to Receive National PEI Honor

R. C. (Doc) Spears, executive secretary of the Louisiana Engineering Society, has been selected recipient of the 1977 Distinguished Service Award by the Professional Engineers in Industry (PEI) division of the 71,000-member National Society of Professional Engineers.

The award will be presented to Spears during the NSPE Annual Meeting in Anaheim, California, in July.

NSPE/PEI Chairman Lloyd L. Piper, II, said Spears was selected for his "untiring efforts to improve the professional, social and economic well-being of the engineer employed in private industry."

Before coming to his LES position, Spears was staff director of NSPE/PEI in Washington, where he created the Professional Engineers Employment Referral Service to help unor underemployed engineers find professional employment. Some 2,000 engineers to date have been enrolled in PEERS, and about 750 engineering employers now receive enrollees' resumes.

During the aerospace industry layoffs of the late 1960s, Spears was instrumental in NSPE's obtaining a "skills conversion" contract with the U.S. Department of Labor, under which displaced aerospace engineers received career reorientation education which enabled them to obtain employment in other engineering fields. Spears also worked with the Labor Department to establish the U.S. Registry for Engineers, another program to help unemployed engineers to find work.

New Orleans Auxiliary Dedicates Engineers' Grove

Members of the Woman's Auxiliary to the New Orleans Chapter met in City Park March 8 with members of the Louisiana Engineering Society to dedicate "Engineers' Grove."

Approximately 50 magnolia trees had been purchased by members of both groups to memorialize deceased LES members or to honor living members. The campaign to secure and to plant the grove was developed under the administration of Mrs. Ann Anderson, wife of engineer Robert B. Anderson and daughter of deceased engineer Charles E. Cassagne, Jr.

Mrs. Anderson, president of the New Orleans Auxiliary, has her doctorate in microbiology and teaches in the Tulane University School of Public Health.

Assisting her in the ceremony were Jerrel J. Freeman, president of the New Orleans Chapter of LES, and Waldemar S. Nelson, NSPE's Southwest vice-presidential nominee, who is also vice president of the Board of Commissioners of the New Orleans City Park.

Anyone wishing to add a tree to the grove should contact Mrs. Anderson.

Continued on page 20



Students receiving LES awards from the New Orleans Chapter are, from the left, Donald R. Chapman, Jr., Scott Jennings, Robin Vaughan, Kenneth G. D'Aquin and James Covell.



The first recipients of engineer-in-training certificates at an LES meeting occurred recently in New Orleans when Waldemar S. Nelson, P.E., representing the State Board of Registration, made the presentations. Seated, left to right, are M. Day Fezler, III, Robert Henry, Luann C. Daugherty and Nga Van Nguyen. Standing, in the same order, are Michael F. Mertens, Patrick A. Brazan, Nelson, Gary W. Fonay and Clayton E. Boyce.

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EngiNEWS
Continued from page 19

Kenneth Pastor Joins Denson Engineers

Kenneth L. Pastor has become a project engineer for Denson Engineers, Inc., diversified international consulting engineering firm based in New Orleans.

Pastor comes to New Orleans from Kingsport, Tennessee, where he was a project engineer for the Eastman Kodak Company's organic chemicals production facility. His experience and abilities will be utilized to expand the firm's industrial capabilities—particularly in the areas of energy management and efficiency.

A 1974 industrial engineering graduate of Louisiana State University, Baton Rouge, he did graduate work at the University of Tennessee.

IN MEMORIAM

Harry H. Tormey

Funeral services for Harry H. Tormey, prominent in New Orleans cement industry circles, were held February 8.

A native of Baltimore, Maryland, he had completed his education in civil engineering at Baltimore Polytechnic Institute and Johns Hopkins University and, after several years as an engineer in the Baltimore area, had settled in New Orleans in conjunction with the Charity Hospital and Calliope Housing Projects works.

Joining Jahncke Service in 1947, he later headed its concrete pipe department, which became a multi-million-dollar operation. He became vice president of the firm in 1964, heading all building material operations until his retirement in 1970. Following his retirement, he joined New Orleans Cement Products as a consultant and safety engineer.

He was a board member of the Moisant Kiwanis Club, member of the Louisiana Engineering Society and the Engineers Club of New Orleans, and a board member of the American Concrete Pipe Association.

In addition to his widow, he is survived by three daughters, a son and six grandchildren.

IN MEMORIAM

John Paul Jones

John Paul Jones, a mechanical engineer engaged in private practice, died in Baton Rouge on February 1. He was one of the very early members of the Gulf Institute of Consulting Engineers, predecessor of the Consulting Engineers Council of Louisiana, Inc. He died at the height of his professional career and was actively engaged in the work of his firm until his final illness.

He was born in Columbia, Louisiana, on January 8, 1927. After graduation from high school in Columbia, he enlisted in the United States Navy and served on active duty from 1943 to 1945.

In 1949 he received his BS degree in mechanical engineering from Louisiana State University, graduating with honors and being elected to membership in Tau Beta Pi and Phi Mu Epsilon.

Shortly after graduation, he was employed as a mechanical engineer by the firm of Ogden and Woodruff (later Ogden, Woodruff and Dyer), Consulting Engineers in Baton Rouge. When this firm was dissolved in 1958, he became a partner in the firm of Ogden, Jones and Hall, Consulting Engineers and was responsible for all mechanical work handled by the firm.

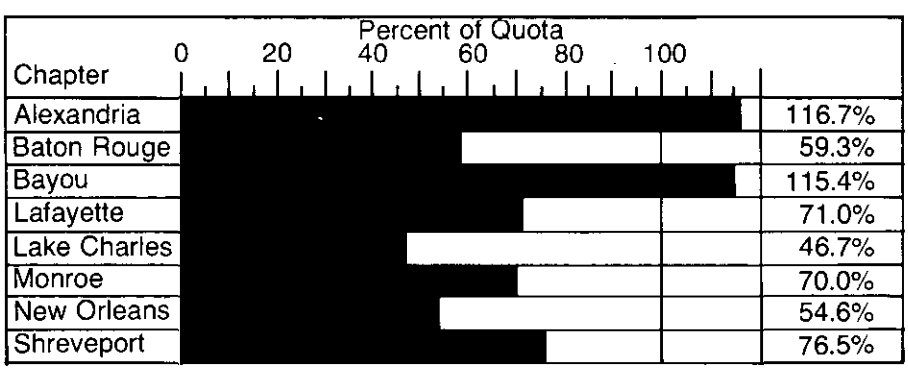
From November, 1963 to January, 1971, he was associated with Barnard and Burk, Inc.

Throughout his career, he had the admiration and respect of all with whom and for whom he worked. Never budging from sound engineering practice and professional ethics, he was an effective contributor of talent and time to his profession.

In addition to the Consulting Engineers Council, he was a member of the Louisiana Engineering Society, the American Society of Heating, Refrigeration and Air Conditioning Engineers and the American Society of Plumbing Engineers.

Among those surviving are his wife, the former Anna Mae Nasca, and two sons, John P. Jones, Jr. and Jeffrey W. Jones.

Membership Contest Standings*



* As of March 16, 1977.

VLIET'S VIEWS
Continued from page 18

and land surveying. As a result, any person will be able to practice without determination of his competence. This will not be in the best interest of the public.

2. When new legislation is proposed to re-create licensing boards, undesirable consumer-oriented articles could be enacted. For example, control of licensing boards by lay persons, the continuance of "grandfather" clauses, and the lowering of academic standards as a requirement for licensing.

3. The uncertainty of the status and the operation of licensing boards will vary from state to state and will affect comity.

4. Mandatory continuing education may be required in any new legislation with no choice left to the state boards to evaluate its need and its quality.

5. The licensing requirements may be administered by another designated state agency with no representation or administration by those with a knowledge of the many facets of professional practice.

It is my opinion that the intent of our "sunset law" is good and that the Board, with the help and guidance of the Professional Engineers and Registered Land Surveyors in Louisiana, can prove to the Legislature a public need for its re-creation. Undesirable effects, similar to those above, need not take place, and we shall make every effort to prevent them.

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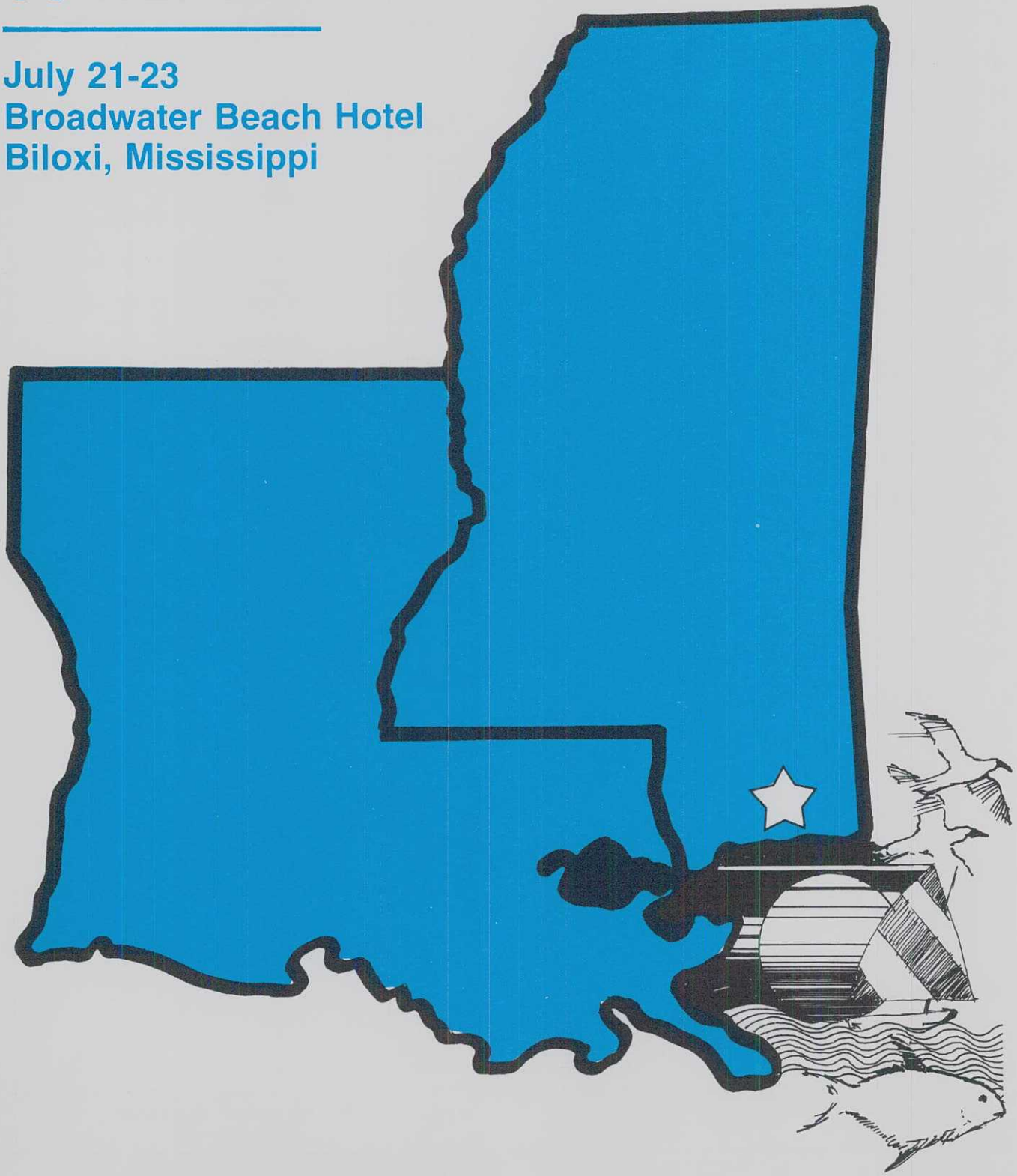

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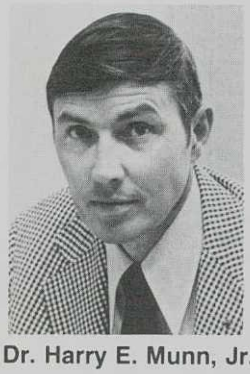
PROGRAM

THURSDAY, JULY 21

Noon- 7:00 p.m.	Registration
1:00 p.m.- 3:00 p.m.	LES Committee Meetings MES Board of Directors Meeting
3:00 p.m.- 5:00 p.m.	LES-MES Practice Division Meetings
6:00 p.m.- 7:00 p.m.	Sponsors' Social Hour Crown Room A, informal
7:00 p.m.- 8:00 p.m.	Seafood Safari Crown Room B, informal
8:00 p.m.- midnight	Dance (Night Riders) Crown Room B, informal

FRIDAY, JULY 22

8:00 a.m.- Noon	Registration
8:30 a.m.- 9:00 a.m.	Convention Session Roger C. Lind, P.E. Mayor of Biloxi James L. Meyer, P.E.
9:00 a.m.-11:30 a.m.	Workshop Dr. Harry E. Munn, Jr. "The Leadership and Motivation of Volunteers"



Dr. Harry E. Munn, Jr.

Dr. Harry E. Munn, Jr., is Associate Professor of Speech Communications at North Carolina State University in Raleigh. He is a native of Chicago and obtained his undergraduate degree from the University of Wisconsin. His master's degree was earned at Bradley University and his Ph.D. in Speech Communications and Human Relations from the University of Kansas.

11:30 a.m.-12:15 p.m.	Dutch Treat Lunch
12:15 p.m.	Men's Golf, Broadwater Sun Course Ladies' Golf, Broadwater 3-Par Course Tennis Tournament, Broadwater Tennis Courts Deep Sea Fishing, Charter Yachts, "Quicksilver" and "Silver Dollar"
7:00 p.m.- 8:00 p.m.	Social Hour, Crown Room A Sponsored by Faulkner Concrete Pipe Company
8:00 p.m.	Banquet—Crown Room B Roger C. Lind, P.E., Presiding Presentation of Trophies and Prizes Golf—Garner Russel Tennis Fishing—Robert K. Hunter Installation of LES-MES 1977-78 Officers Delbert A. Schmand, P.E., NSPE President



Del Schmand, P.E.

10:00 p.m.	On the Coast

SATURDAY, JULY 23

8:30 a.m.- 9:00 a.m.	LES General Membership Meeting
8:30 a.m.- 9:30 a.m.	MES General Membership Meeting
9:00 a.m.	LES Board of Direction Meeting

LADIES' PROGRAM

An interesting and varied Ladies' Program is being arranged. Details were not available at press time.

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June, 1977

LOUISIANA ENGINEER

The LOUISIANA ENGINEER is the offical 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.

Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318.



About the Cover

Members of the Louisiana Engineering Society and the Mississippi Engineering Society will gather in Biloxi July 21-23 for their Seventh Annual Convention. To register, please use the forms on page 3.

In This Issue

LES/MES Convention Program 2
Convention Registration Forms 3
Presidential Privilege 5
LES Spring Meeting in Houma 6
Old River Control Complex ... 9
Potpourri 14
Vliet's Views 16
EngiNEWS 17

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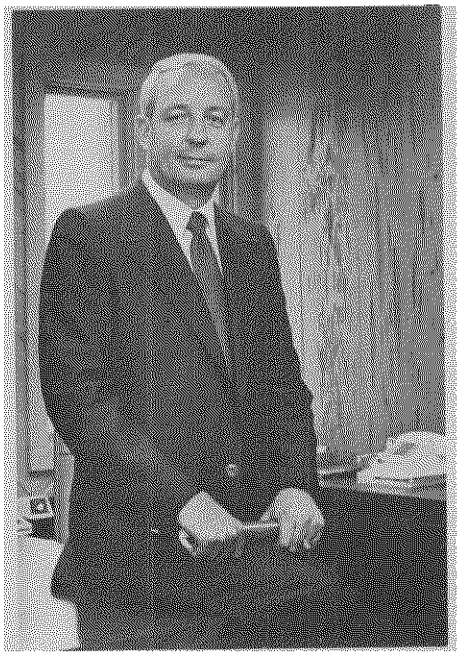


Presidential Privilege

James L. Meyer, P.E.
President, LES

The following is a story which I picked up somewhere—author unknown. While it is not original with me and I cannot give credit where credit is due, it is reproduced here because it makes a significant point.

Once there was an engineer who never joined his professional organization. All his life he took the benefits won for him by members of the organization, but he refused to join. Then on his deathbed he told his wife: "Dear, please do something for me. I want the members of the Professional Engineering Organization to be my pallbearers."

"But you never belonged to the organization," his wife said. "Why do you want the members to be your pallbearers?"

"Honey," he replied, "they've carried me this far, they might as well carry me the rest of the way."

There are over 14,000 engineers, engineers-in-training, and land surveyors and land surveyors-in-training who have certificates from the State Board of Registration. That is, the number of residents and non-residents of Louisiana who can represent themselves as professionals and professionals-in-training totals over 14,000.

The Louisiana Engineering Society has a membership of something over 3,100, approximately 2,600 of whom are professional engineers and engineers-in-training. The Consulting Engineers Council of Louisiana has approximately 111 member firms representing an estimated 200 principals. The Louisiana Land Surveyors Association has approximately 240 members.

Adding these numbers together indicates that there are some 3,040 professional engineers, engineers-in-training, surveyors-in-training and registered land surveyors who belong to some professional organization. Considering the fact that there is some overlap resulting from dual membership, I estimate the number of professionals and professionals-in-training who actually support the professions of engineering and land surveying in this state to be 2,600—a representation of less than 20 percent.

The foregoing analysis does not include membership in the founder societies, other technical societies or special interest groups. Only those engineers who give their time, talent, energy and finances to support the broad spectrum of the professions of engineering and land surveying, irrespective of individual disciplines and personal interest, are included.

The long and short of it is simply that there are a lot of people getting a free ride. Moreover, the majority of professionals and professionals-in-training in Louisiana are not subject to the jurisdiction of any organization concerned directly with professional conduct.

In addition, the strength in numbers (which could be) is greatly reduced when the organizations who represent the professions of engineering and land surveying approach the legislature in the interest of all engineers and land surveyors.

What can be done to get all engineers and land surveyors to respond to the needs of their respective professions? How can the individual be motivated not to sit idly by and ask "what happened" when he could be helping make things happen?

I believe that the answer lies with the State Board of Registration. No other organization can command the immediate attention of all registered engineers and land surveyors in Louisiana. To encourage the State Board to assume this responsibility, however, will require the support of all engineers, engineering organizations, land surveyors and land surveying organizations, and every discipline, founder society and vested interest group.

When the opportunity arises, I urge that we all lend our support to accomplish the unification of the professions of engineering and land surveying under a common umbrella—a marriage which is long overdue.

LES Spring Meeting at Houma

The Houma spring meeting held April 28-29-30 was a huge success. Attendance was larger than any previous year, with 130 engineers and 88 wives registered for the three-day event.

The early-bird seafood cocktails and dinner at the Sheriff's Camp on Thursday evening were enjoyed by more than 220 people. This event was sponsored by 23 organizations in the Bayou Chapter area. The menu of delicious crawfish, shrimp and crab was piled on the tables and no one can say there was not enough.

Ed Steimel, president of the Louisiana Association of Business and Industry, gave an excellent talk on a sane fiscal policy for Louisiana to 110 engineers and guests while their ladies enjoyed a bus tour of the Bayou Terrebonne area, Ardoyne Plantation and lunch at the Ellendale Country Club.

The LES awards banquet was attended by 240 people. Fred C. Culpepper, P.E., Honor and Awards Committee chairman, presided. Five engineers were honored for their outstanding service to the profession, and Freeport Sulphur Company was presented the Louisiana Industrial Professional Development Award certificate.

Engineering students from LSU, Tulane, USL, Southern and Louisiana Tech presented interesting and well-prepared papers. Ray DesOrmeaux, P.E., chairman of the Engineering Committee, moderated the student meeting.

Jim Dunn and R. J. Shaw ran the golf tournament at Ellendale Country Club. Dan Duplantis won low net, Lloyd Hoover low gross, David Buck second low net and Ray DesOrmeaux second low gross. Arthur DeFraites was awarded the "duffer" title.

Each of these winners was presented a trophy at the banquet. Twenty-eight golfers entered the tournament.

Dale Brock and Robert Brinsmade organized a tennis tournament with 14 participating. Roger Richardson, P.E., defended his 1976 title and won first place; and Dale Brock came in second. In the ladies' tournament, Juana Woodard won first place, Jean Blanche was second and Marilyn Dantin received the "best sport" trophy.



John E. Copes, P.E., right, receiving the James M. Todd Technological Accomplishment Award from Philip W. Bohne, P.E.



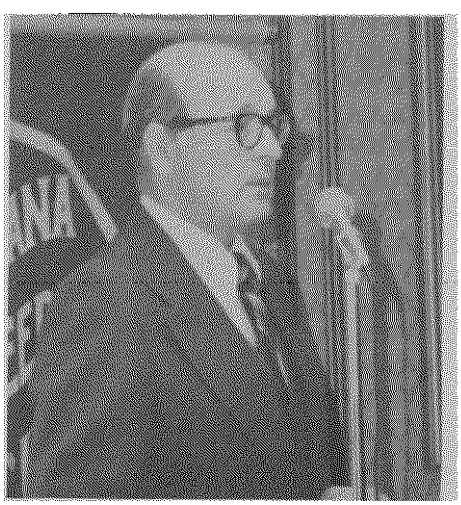
Robert C. Chappuis, P.E., left, congratulating Raymond E. Pillow, P.E., recipient of the A.B. Patterson Award.



Frank S. Walk, P.E., left, receiving the Andrew M. Lockett Award from D. Allan Collette, P.E.



Eric J. Guilbeau, P.E., left, presenting the F. Hugh Coughlin Young Engineer Award to John W. "Billy" Moore, P.E.



Edward J. Steimel, president of LABI, briefed the men on "A Sane Fiscal Policy for Louisiana" at a luncheon meeting.



Joy Meyer, left, telling Doc Spears and Jim Meyer all about crawfish.



Waldemar S. Nelson, P.E., left, receiving the Leo M. Odom Award from A.J. Szabo, P.E.

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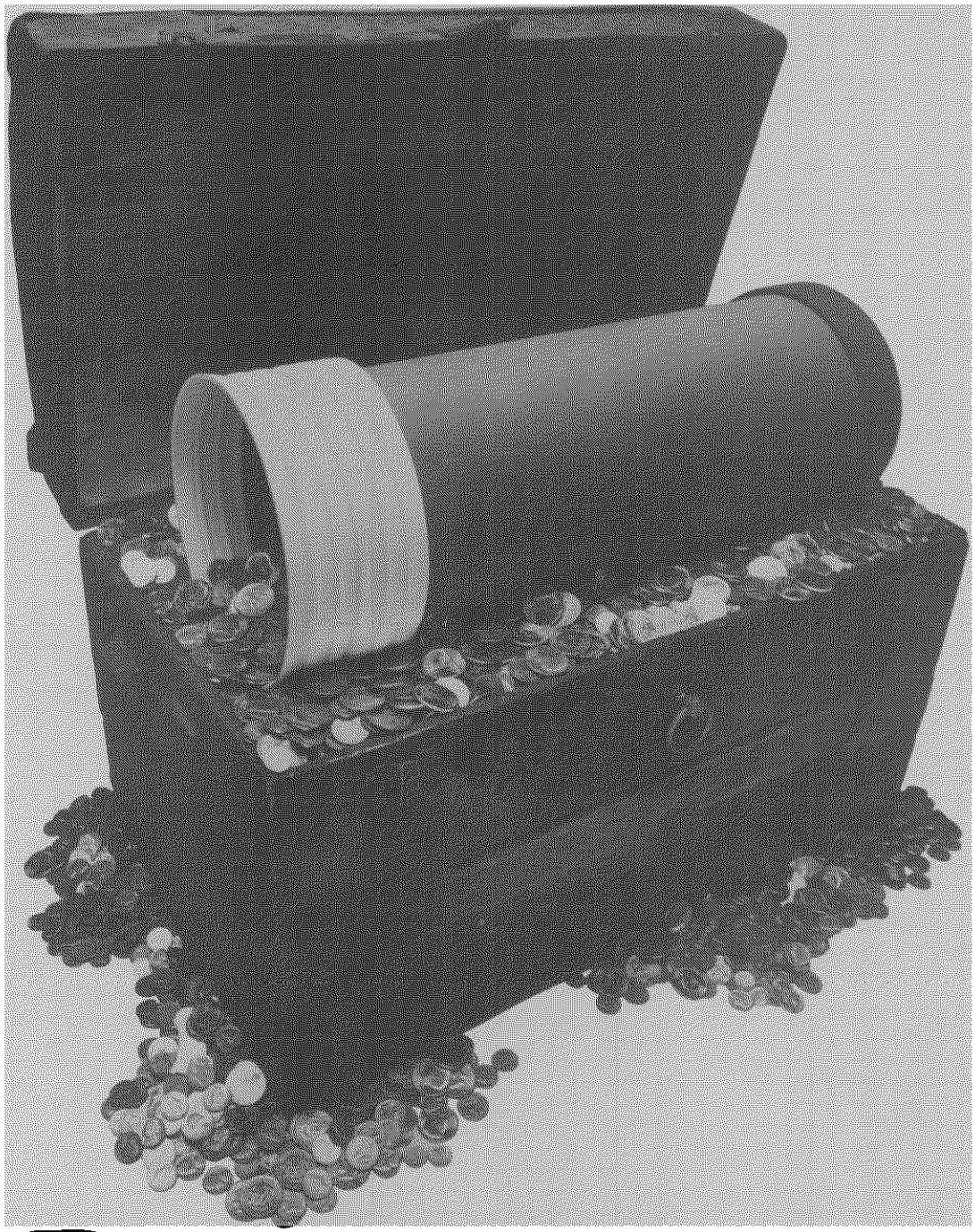

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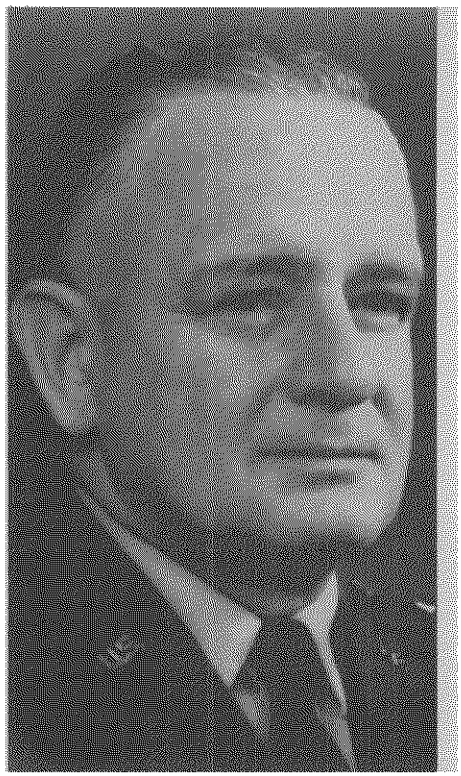
The Old River Control Complex

Major General Francis P. Koisch



EDITORIAL NOTE: *Major General Francis P. Koisch is division engineer, Lower Mississippi Valley Division, and president of the Mississippi River Commission, U.S. Army Corps of Engineers. He has broad experience in the engineering and water resources management program of the corps and has served in many responsible positions in the Army's engineer corps. He came to his present position September 15, 1974 and was appointed president of the Mississippi River Commission December 16, that same year.*

Major General Koisch is a past president of the Coastal Engineering Research Board and the American section of the Permanent International Association of Navagational Congresses. He is currently chairman of the Red River Compact Commission, a member of the Board of Engineers for Rivers and Harbors and regional vice president of the Society of American Military Engineers.

A 1942 graduate of the United States Military Academy, Major General Koisch received a Master of Science degree in civil engineering at the University of California, Berkley. He is a registered professional engineer in Texas.

The alluvial valley of the Mississippi River is protected from flooding by a complex of structures referred to collectively as the project for flood control on the Mississippi River and tributaries; the project includes levees, reservoirs and channel improvements. One of the more interesting features of this project is Old River Control which was constructed in the 1950s and 60s to prevent the impending adoption of the Atchafalaya's course as the lower Mississippi's main route to the Gulf of Mexico.

Historically, Old River was a seven-mile stream connecting the Mississippi with the Red and Atchafalaya Rivers. After carefully studying alternative solutions, the Corps of Engineers recommended that the uncontrolled link—Old River—be replaced with a controlled connection, to prevent the threatened change in course of the Mississippi River.

Congress incorporated this recommendation into the Flood Control Act of 1954, which President Eisenhower signed on September 3 that year.

The project area is located on the west bank of the Mississippi River about 50 miles northwest of Baton Rouge, and about 35 miles southwest of Natchez, Mississippi (Exhibit 1). The river network in the project area is similar to the shape of the letter *H*, with the right side (looking upstream) of the *H* being the Mississippi River, the upper portion of the left side the Red River, the lower portion of the left side the Atchafalaya River and the cross bar the Old River.

To accomplish its purpose of preventing the Mississippi River from changing its course to the Atchafalaya, the project provides for controlling flows from the Mississippi River into the Atchafalaya River and Basin on the basis of the natural conditions which existed in 1950. The principal features of the plan consist of two mechanically operated control structures, inflow and outflow channels, a lock for navigation, an earthen dam closing the natural Old River, levee enlargement, and bank stabilization. The two control structures are designated the low sill and overbank structures.

The low sill control structure is a reinforced concrete structure with vertical lift gates, founded on steel H-piles. The design pile capacity is derived from skin friction and point bearing in sand. The structure has a gross length of 566 feet between abutments, with 11 gate bays each having a 44-foot clear width between piers. The three center bays have weir crests at elevation minus five feet mean sea level (msl) and the four outer bays on each side of the center bays have a crest at plus 10 feet msl.

The bays are closed with vertical lift steel gates which are handled by two travelling gantry cranes. A 26-foot-wide highway bridge is located

Continued on page 10

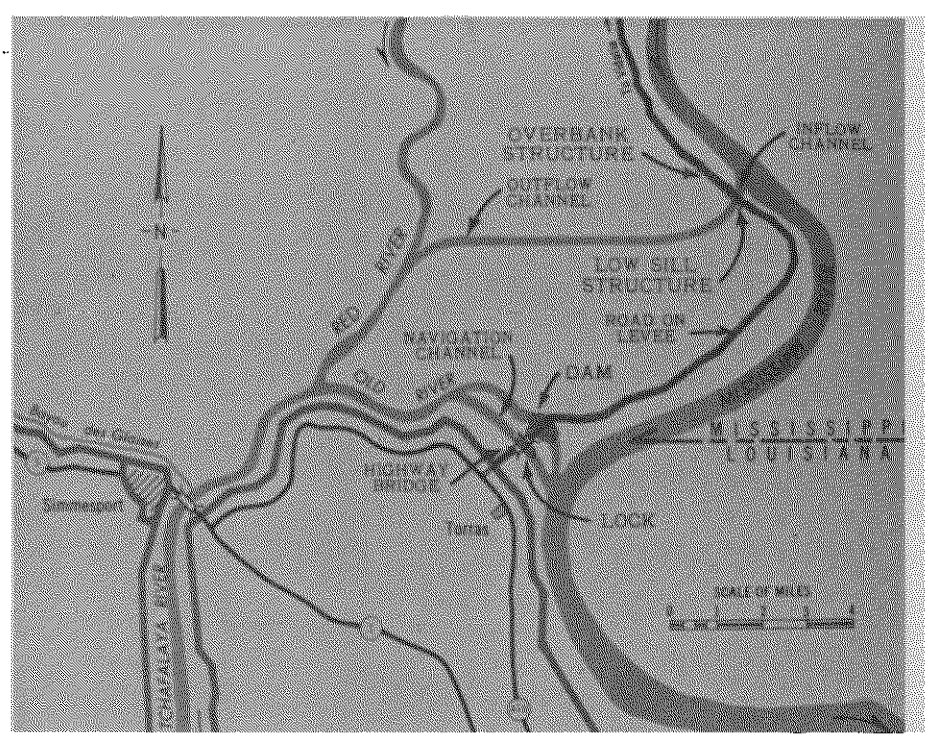


Exhibit 1

OLD RIVER CONTROL COMPLEX
Continued from page 9

on top of the piers on the downstream side and is part of Louisiana Highway 15.

Construction work on the plan was initiated in 1955 and essentially completed in 1963. The total cost was $69.1 million.

The low sill structure was first operated in a series of tests between June and August 1961. This operation resulted in formation of a scour hole in the outflow channel approximately 30 feet below the original channel bottom. It also caused some damage to riprap on the north side of the channel.

In February through August 1962, test operations were resumed, again resulting in outflow channel scour, this time to a depth approximately 80 feet below the original channel bottom. In August 1963, Old River was closed with an earth dam, and since that time all diverted flow has passed through the low sill and overbank structures. Between 1963, when the structures were put into full operation, and the 1973 flood, scouring was experienced in both the inflow and outflow channels of the low sill structure as the channels adjusted themselves to the fluvial regime.

During this 10-year period, scour repairs were accomplished on eight occasions utilizing 390,000 tons of rock and 31,000,000 square feet of articulated concrete mattress at a total cost of $3 million. The overbank structure was not operated during this relatively flood-free period.

In addition to scour, two problems incident to marine accidents occurred which required emergency closures of the low sill structure. In April 1964, eight unattended barges entered the inflow channel and were swept into the structure, and in December 1965, four such barges were carried into the structure. Removal of these barges resulted in a direct cost of about $230,000 for the two operations.

In addition, gate closures required during the removal operations resulted in large differential heads, up to a maximum of 35.8 feet. Reopening the gates under these large heads resulted in extensive downstream scour, and the costs for repair on these two occasions represent $1.95 million of the $3 million cited above.

The large 1973 flood was the first significant flood event to occur on the Mississippi River with the Old River project in operation, and resulted in the maximum flows that have passed through the structure (Exhibit 2). In-



Exhibit 2

flow conditions were severe. There was a concentration of flow along the south bank of the inflow channel, which created severe turbulence adjacent to the south wingwall. This resulted in scour of the riprap protecting the wingwall and removal of the alluvial foundation material.

On April 14, 1973, the wingwall collapsed into the inflow channel.

An additional inflow condition that contributed to the uneven flow distribution across the low sill structure was caused by the diversion of flow

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from along the north or right bank of the inflow channel into the overbank structure after it was opened. This also created an adverse inflow condition at the south abutment of the overbank structure.

These conditions resulted in reduced flow through those gates near the south side of the overbank structure, and excessive currents along the south wingwall of the overbank structure. A stone dike was constructed to improve flow conditions in this area and to guard against possible scour adjacent to the soil-founded approach wingwall (Exhibit 3).

A large scour hole developed in the low sill inflow channel, and severe undermining beneath the main structure occurred. Subsequent repairs consisted of constructing a rock dike to replace the south wingwall, filling the hole in the approach channel with rock, filling a large void under the structure with grout, and repairing eroded areas upstream and downstream from the structure (Exhibit 4). Rather ironically, this erosion resulted from turbulence aggravated by gate manipulation necessary to accomplish the other repairs.

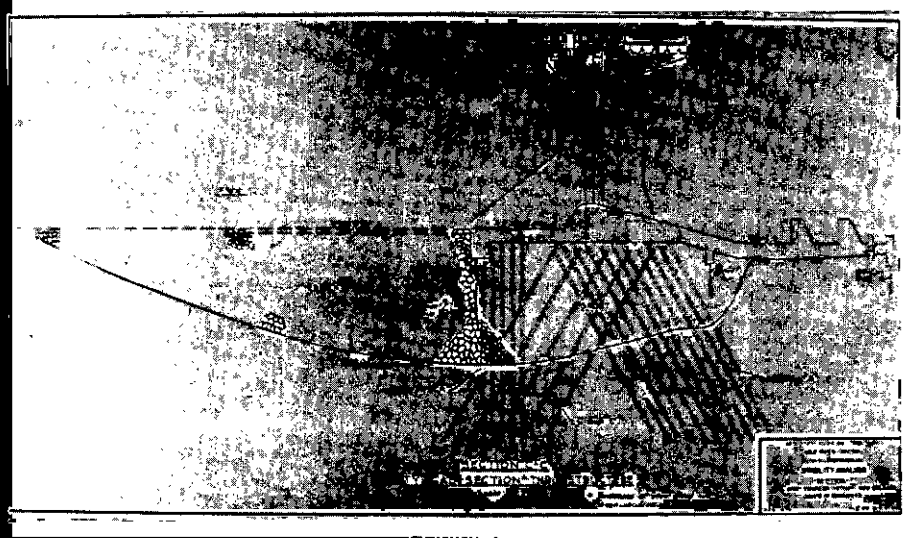

Exhibit 4

In August 1976, water stages were, for the first time since 1973, low enough to permit systematic underwater inspection of the low sill structure stilling basin by divers. The stilling basin slab was found to be severely eroded in the area between the end sill wall and downstream row of baffle blocks (Exhibit 5).

The erosion in this area varied generally from depths of six inches to two feet, with isolated areas having as much as four feet of erosion. Both transverse and longitudinal steel reinforcements were exposed over the area.

In many areas, the reinforcing steel was found to be free on one end and bent upward from the slab. In addition to the damaged stilling basin slab, a considerable amount of riprap was also found in this area.

The survey of the stilling basin behind the high gate bays on the south

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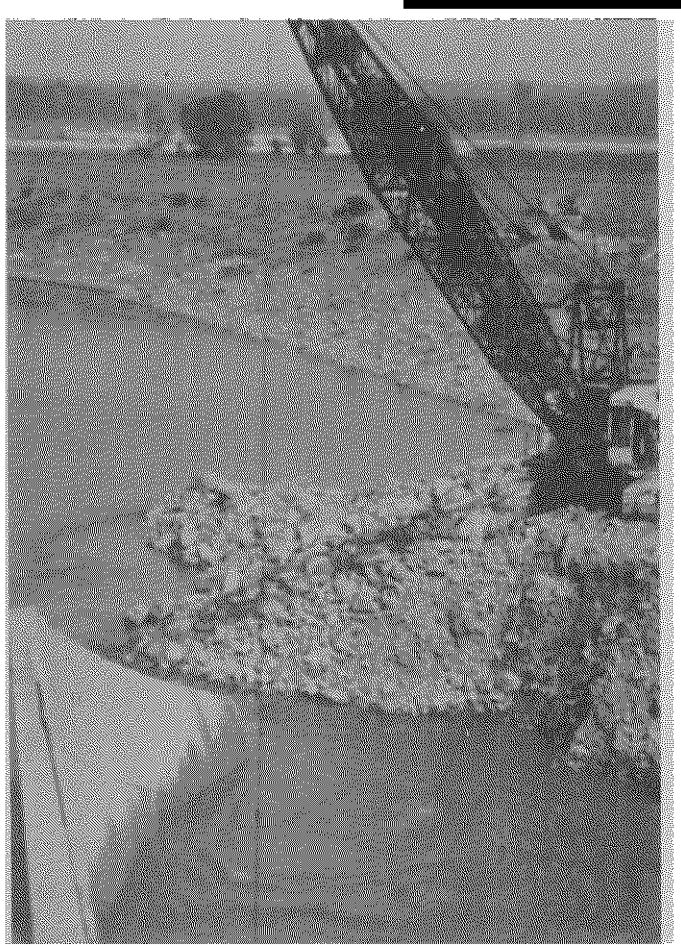

Exhibit 3

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OLD RIVER CONTROL COMPLEX
Continued from page 11

portion of the structure also revealed erosion damage to the downstream portion of the stilling basin slab. While this area was not as severely eroded as the low bay area, its condition was of concern.

The average depth of erosion varied from four inches to one foot, with both transverse and longitudinal steel exposed over half of the area.

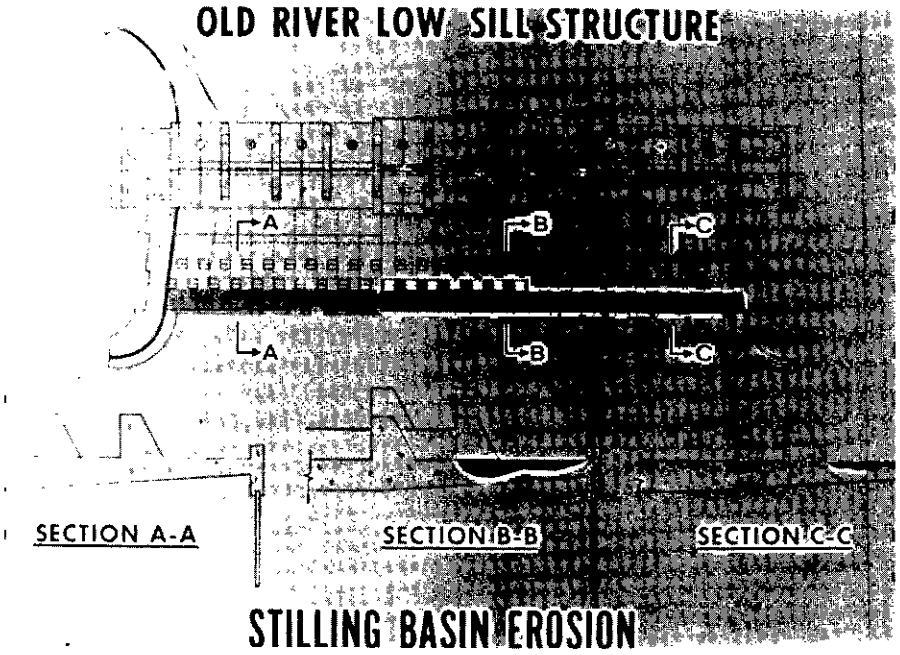

Exhibit 5

This area had also trapped riprap debris of various sizes.

In addition, a large pile of debris was discovered on the downstream portion of the stilling basin slab. The debris consisted of pieces of the upstream approach apron, segments of the upstream wingwall, and riprap. Twisted throughout this pile were numerous reinforcing bars.

The survey of the stilling basin behind the high gate bays on the north portion of the structure revealed a few pieces of riprap, general wear of the concrete surface, and only two isolated areas of severe erosion.

The underwater inspection of the stilling basin was completed on August 23, 1976. It was decided that the stilling basin would have to be repaired to protect the integrity of the overall structure and that the structure would not be completely closed to facilitate repair. Rather, repairs would have to be made under flow with careful use of partial closure which would not only produce acceptable underwater working conditions but which also would pass water

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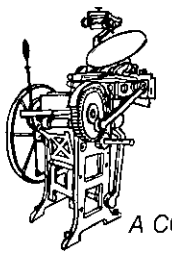

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through the structure into the Atchafalaya Basin in accordance with the authorized project.

To reduce to a minimum any flow deficiency in the Atchafalaya Basin during the repair work, flow also was diverted into the basin through Old River Lock. Conceptual schemes for performing the repairs developed immediately. During the design phase and preparation of plans and specifications, an emergency contract was let on August 26, 1976 to clean all the loose debris from the stilling basin and prepare it for the repair work. This contract was completed on September 9, 1976.

The plan of repair consisted of installing steel modules over the entire downstream portion of the slab from the downstream row of baffle blocks to the end sill wall and pumping a fiber-reinforced concrete grout beneath the steel modules. The modules were anchored to the slab and provided a formed void in which to pump the grout (Exhibit 6). In addition, upstream "spoilers" were provided in the low bay areas to minimize lifting forces on the modules.

The plans and specifications were completed on August 30, 1976, and a contract award was made on September 10. Actual construction work began on September 13 and all work was completed on December 16 at a total cost of $1.9 million.

The work was done under a contractual arrangement with Anthony J. Bertucci Construction Company, Inc., prime contractor. Subcontractors were Alabama Waterproofing, Inc., Coastal Contractors, Inc., and Epic Divers, Inc.

While the work was performed under adverse conditions, and incorporated much which had not been attempted before, the Corps of Engineers is confident a serious threat to the integrity of the low sill structure has been allayed.

A contract is presently being advertised that will provide additional scour protection to the low sill outflow channel. Designs are continuing for modifications to the overbank structure to enable this feature to safely handle future flood flows. Revetment work in the low sill inflow channel and adjacent Mississippi River banks is also proposed to improve the hydraulics of the inflow channel.

Additional measures to further restore the complex are also under study.

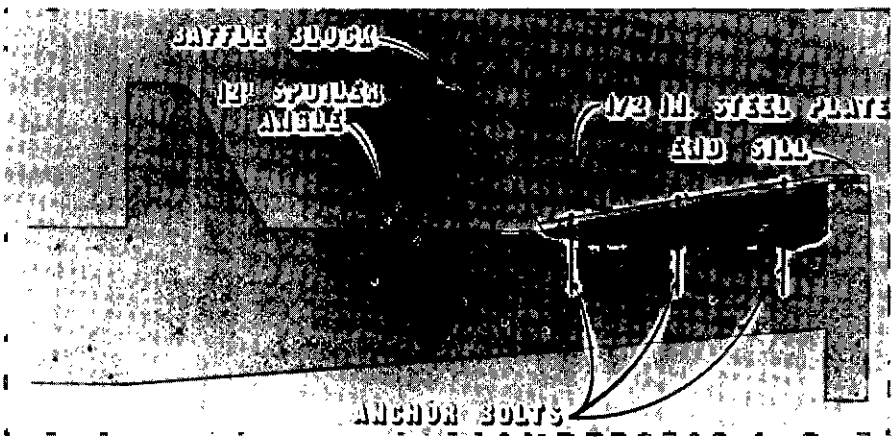
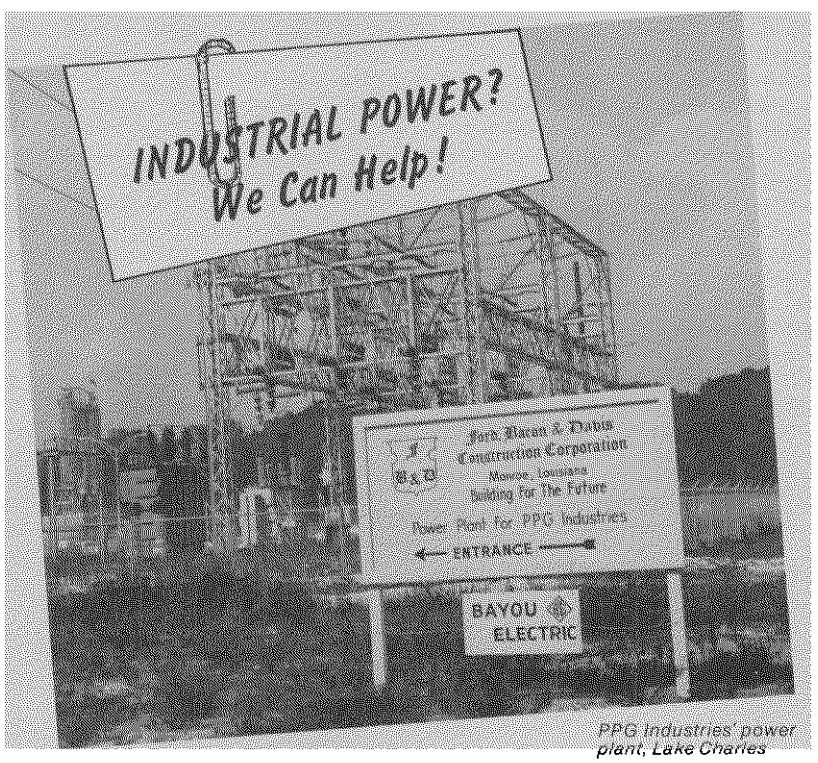


Exhibit 6—Repair Plan



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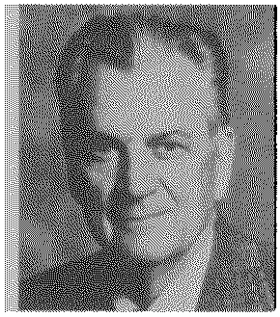


Great Plans for 1977 NSPE Southwestern Regional Meeting

The NSPE Southwestern regional meeting will be held October 19-20, at the Laredo Hilton Inn, Laredo, Texas. Louisiana is in the Southwest region and all LES members are cordially invited to attend. The Laredo Chapter of the Texas Society of Professional Engineers is hosting the meeting and Louisiana's own **Waldemar S. Nelson, P.E.,** vice president of the NSPE Southwest region, will moderate the activities.

Preliminary plans include a "Border Buttermilk" party Wednesday evening for the early arrivals. Practice division meetings will be held on Thursday morning and a panel discussion, "Continuing Professional Development," is scheduled for Thursday afternoon. That evening the ladies will join their husbands for a dinner at The Winery, in Neuvo Laredo, Mexico.

Friday morning, **Dr. John McKetta, P.E.,** an internationally recognized authority on energy development and professor of chemical engineering at the University of Texas, will talk on "Energy Dollars and Sense." A general session is planned for Friday afternoon with **NSPE President Del Schmand, P.E.,** reporting on NSPE programs and problems for 1977-78.

Ladies' activities include a motor tour of Neuvo Laredo, luncheon at La Hacienda, sightseeing, tequila brunch at the nearby Air Force Officers Club, and a Laredo shopping tour.

A post-convention tour has been arranged for Saturday, Sunday, Monday and Tuesday, October 22-25, to Monterrey, Mexico, by Greyhound bus. The package includes round-trip bus transportation, city tour and shopping, tour of Saltillo, tour of Horsetail Falls, three days' accommodations at Hotel Ancira, and all baggage handling and gratuities in Laredo and Monterrey. The price is $110 double occupancy and $130 single occupancy.

Nominations for State Board of Registration

The Louisiana Engineering Society is charged with the responsibility of recommending qualified engineers to the governor for possible appointment as board members of the State Board of Registration for Professional Engineers and Land Surveyors.

Two members' terms expire July 31. Therefore, LES submitted on May 16 two lists of nominees from which the governor will select replacements.

To fill the vacancy created by the expiration of **Waldemar S. Nelson's** term:

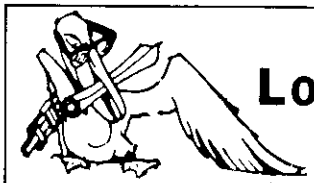
R. G. Cappel, P.E.	New Orleans
R. P. Cressy, P.E.	New Orleans
Chris Demopulos, P.E.	Shreveport
Waldemar S. Nelson, P.E.	New Orleans
Easton Stewart, P.E.	Baton Rouge

To fill the vacancy created by the expiration of **Jesse Coates'** term:

L. R. Daniel, P.E.	Baton Rouge
B. S. Pressburg, P.E.	Baton Rouge
J. W. Reeves, P.E.	Lafayette
D. D. Reneau, P.E.	Ruston
G. J.Trammell, P.E.	Ruston

Results, Amicus Curiae Brief

The appeal of a lawsuit, **Carl Heck Engineers** vs. LaFourche Water District No. 1, was heard March 4 in the First Circuit Court of Appeals. On May 9, the court affirmed the opinion of the Water District, dismissing the appeal of the LaFourche Parish Water District No. 1 and, in do-



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ing so, ruling specifically that the failure of the LaFourche Parish Water District to let its engineering services out on a competitive bid was not a violation of Louisiana law.

It is possible the appellant may apply to the Supreme Court for a writ of review; but so far LES, CEC/L and the Louisiana Section of ASCE feel that their decision to file the *amicus curiae* brief has been rewarded.

Directory of Minority Architectural and Engineering Firms

The first directory to identify and categorize more than 300 minority architectural and engineering firms has been published by the American Consulting Engineers Council and the American Institute of Architects.

The directory was published in response to recently established federal agency guidelines on the use of minority architectural and engineering firms in government-issued contracts. The directory will also aid in the coordination of federal and non-federal contracting in accordance with the requirements of the Minority Business Enterprise Program, the National Equal Employment Opportunities Act and affirmative action programs.

Copies of the 1977 Directory of Minority Architectural and Engineering Firms are available for $7.50 (members) or $15 (non-members), prepaid, from ACEC or AIA. Address orders to ACEC, 1155 15th Street, N.W., Washington, D.C. 20005. Specify Document No. 62.

Garyville Refinery Dedication

Marathon Oil Company's new 200,000 barrels-per-day refinery, on the banks of the Mississippi near Garyville, some 35 miles west of New Orleans, is complete and on stream. Dedication ceremonies were held April 12.

In just two and one-half years, the biggest oil refinery ever built in the continental United States in a single construction phase has risen on the site where sugar cane was once processed.

The new refinery not only reflects the desire to improve the country's energy supply capabilities but also makes an otherwise unpopular energy source—high sulphur crude oil—environmentally acceptable by converting it to low sulphur fuels. The refinery's facilities are designed to yield maximum quantities of residual fuel oil and middle distillates and smaller quantities of unleaded gasoline and asphalt.

The project management, engineering, procurement and construction management at the refinery were provided by Walk, Haydel & Associates. **Frank Walk, P.E.**, LES Life Member and recipient of the LES 1977 Andrew M. Lockett Award, attended the dedication and expressed his firm's satisfaction with the work done on the project.

The Louisiana Engineering Society extends best wishes and every success to Marathon.

Practice Division Slate of Officers for 1977-78

The LES PEPP, PEI and PEE practice divisions have selected the following engineers to lead their divisions in 1977-78:

Professional Engineers in Private Practice (PEPP)

Chairman	**Frank Jenkins, P.E.**	Monroe
Vice Chairman	**Richard Meyer, P.E.**	Lake Charles
Secretary-Treasurer	**Paul D'Antoni, P.E.**	Baton Rouge

Professional Engineers in Industry (PEI):

Chairman	**Carroll J. Fuselier, P.E.**	Alexandria
Vice Chairman	**A. J. Adoue, P.E.**	New Orleans
Secretary	**Wayne E. Staton, P.E.**	Alexandria

Professional Engineers in Education (PEE):

Chairman	**Hugh Thompson, P.E.**	New Orleans
Vice Chairman	**Fred Brown, P.E.**	New Orleans
Secretary-Treasurer	**D. D. Reneau, P.E.**	Monroe

Professional Engineers in Construction (PEC):

Chairman	**Jesse Odom, P.E.**	Lafayette
Vice Chairman	**David Edgar, P.E.**	Monroe

LES Allowed One National Director in Future

The proposed NSPE constitutional amendment to provide that the number of national directors be limited to one for the first 1,500 national members, or fraction thereof, passed by a vote of 10,607 to 5,085. This means that after the July NSPE meeting, LES will be allowed only one national director. The former rule was one national director for each 500 national members or fraction thereof, and LES—with 1,200 members or so—was allowed three national directors.

The NSPE amendment to raise dues ceiling to $45 per annum did not receive the required two-thirds affirmative vote and thus failed.

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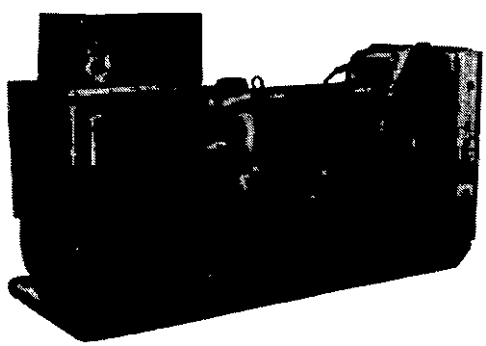

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Vliet's Views

Daniel H. Vliet
Executive Secretary
Louisiana State Board of Registration for Professional Engineers and Land Surveyors



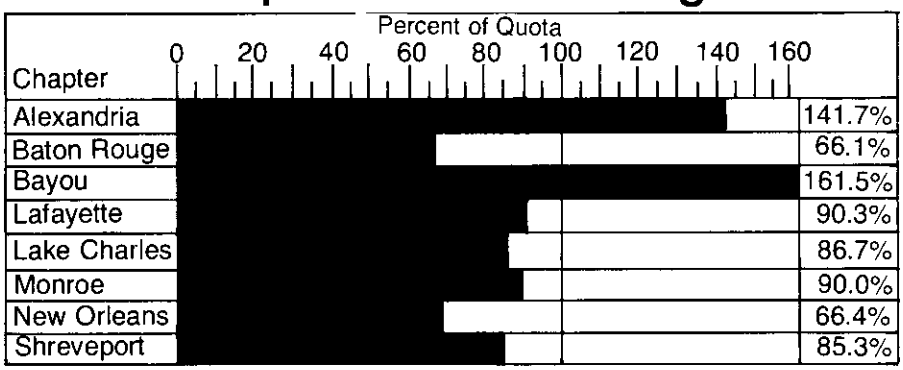
The Registration Board has the authority under Section 20 (R.S. 37:700) of Act 73 of 1950 to suspend or revoke the registration of any registered professional engineer or land surveyor who has been found guilty of "any fraud, deceit, gross negligence, misrepresentation, violation of contract or gross incompetency in his practice."

The attorney for the board is of the opinion that the board has the authority under the laws of the state of Louisiana to define the above terms and to specify acts that may be considered to be fraud, etc. Such a set of definitions and examples would make it clear that certain acts of misconduct and malpractice constitute violations or the registration law, for which a registrant may have his license revoked.

An ad hoc committee of the board has been charged with the responsibility of defining the items of misconduct and malpractice specified in the Registration Law (Act 73 of 1950). In April the chairman of this committee, James L. Meyer, sent letters to all of the professional and technical societies in this state for which he had addresses. These societies were asked to provide input to the committee and requested to respond on or before July 20.

I would like to encourage you as a reader of *THE LOUISIANA ENGINEER* to submit items you would like to have the committee consider. You may do this either through your society or by a letter to the board. The board, acting on the advice of its attorney, will have the final responsibility of making decisions. Nevertheless, you can be sure that your recommendations are welcomed and will be given careful consideration by the committee and the board.

Membership Contest Standings*



* As of April 26, 1977.

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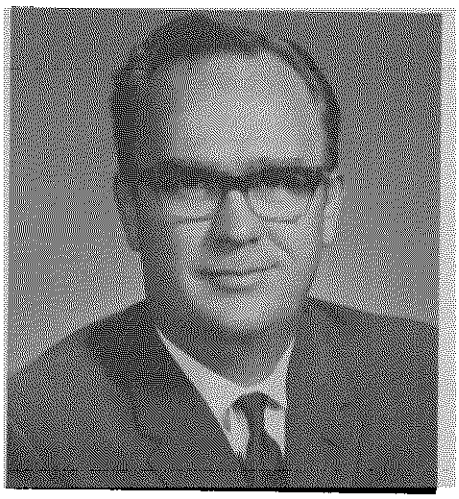
EngiNEWS

J. Ben Meyer Joins Governor's Staff



On March 1, J. Ben Meyer, P.E., assumed duties as director of Facility Planning and Department, a division of the Governor's Office. He was formerly chief of engineering and consulting services for the Department of Health and Human Resources.

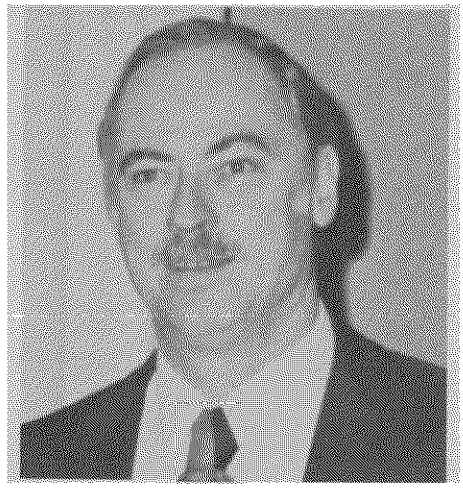
A native of Plaquemines Parish, Meyer has lived in Baton Rouge since 1942. He graduated from LSU with a B.S. degree in electrical engineering. He served four years in the U.S. Maritime Service as communications officer and four years as an officer in the Air Force attached to the National Security Agency.

Meyer has served in seven administrations under five governors in Louisiana. In his role with the Department of Institutions, which later became the Department of Hospitals, Meyer had responsibility for administering the Hill-Burton hospital construction program and the mental health and mental retardation construction program.

Guissinger Receives State Promotion

Roger P. Guissinger has become undersecretary of the Louisiana Department of Transportation and Development.

He has been employed by the Louisiana Department of Highways since 1955 with assignments in



bridge design, as chief location and design engineer, and as executive administrator. On a special leave from the Highway Department in 1968, Guissinger performed a United Nations assignment in Israel as consultant on bridge design and construction practices.

He also had two engagements from December 1975 to March 1976 as a civil engineering consultant to a multi-disciplinary team working on a village development project in India sponsored by the Institute of Cultural Affairs and the government of that country.

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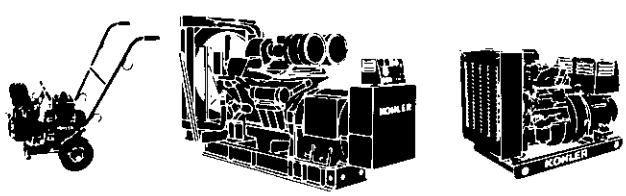

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Continued on page 20

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Continued from page 19

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Lake Charles, LA—Electrical

Akers, William Snead
Lafayette, LA—Petroleum

Almond, John Henson
Jackson, MS—Civil

Altman, Shimon
New Orleans, LA—Mechanical

Ashley, John Alford
Pearl, MS—Civil

Ballard, Bruce Wayne
Houma, LA—Petroleum

Barr, Gregory Robert
London, England—Mechanical

Barr, Jr., Harold Macon
Lafayette, LA—Civil

Beasley, William Thomas
Natchez, MS—Mechanical

Bergman, William Earl
Lake Charles, LA—Civil

Boese, Henry Alpha
Metairie, LA—Civil

Bowland, Jr., George Robert
Baton Rouge, LA—Mechanical

Boyd, William LeRoy
Houston, TX—Chemical

Butwin, George Robert
Monroe, LA—Civil

Caldwell, Gary H.
Baton Rouge, LA—Mechanical

Campbell, DeWayne Allan
Slidell, LA—Civil

Campbell, Larry Wayne
New Orleans, LA—Chemical

Cole, William Irvan
New Orleans, LA—Petroleum

Comas, Emanuel Michael
New Orleans, LA—Mining

Custen, Allen Mordecai
Huntington Sta., NY—Civil

Dane, III, John
New Orleans, LA—Civil

Danflous, Jr., Louis Emile
Metairie, LA—Civil

Donovan, Frederick Charles
Pensacola, FL—Civil

Doty, Robert Thomas
Lake Charles, LA—Mechanical

Durrett, Arthur Harold
Arcadia, LA—Civil

Gibson, John Wayne
Westlake, LA—Electrical

Haschle, LaVerne Herbert
Baton Rouge, LA—Mechanical

Hawkins, Jr., John Frederick
Shreveport, LA—Agricultural

Hebert, David Carl
Metairie, LA—Civil

Heikamp, Jr., Albert Joseph
Metairie, LA—Civil

Henry, Robert Richard
Lafayette, LA—Electrical

Johns, Stephen Garratt
Oklahoma City, OK—Chemical

Joshi, Maheshchandra C.
Lafayette, LA—Civil

Katz, Paul Nieson
Houston, TX—Electrical

Kramer, Jack Martin
New Orleans, LA—Mechanical

Kramer, Kenneth Konrad
Syosset, NY—Civil

LaFitte, Larry Leonard
Baton Rouge, LA—Chemical

LeGlue, Michael Joseph
New Orleans, LA—Mechanical

Linden, Samuel Hilding
Doraville, GA—Civil

Luttgen, William Henry
Victoria, TX—Mechanical

Malarkey, John Jerome
Lake Charles, LA—Mechanical

Marko, Francis William
New Orleans, LA—Mechanical

McDowell, John Charlie
Gretna, LA—Civil

McDowell, Travis Shelton
Lake Charles, LA—Mechanical

Melancon, John Michael
Metairie, LA—Petroleum

Meriwether, Donald Lewis
New Orleans, LA—Petroleum

Motchkavitz, Robert James
Miami, FL—Civil

Pittman, Paul Ford
Prairieville, LA—Mechanical

Revis, Wayne Boyce
McCalla, AL—Electrical

Singh, Brajendra Prasad
Shreveport, LA—Industrial

Spencer, Dale Clyde
Sulphur, LA—Chemical

Terrell, Jr., Marvin Frederick
Harvey, LA—Mechanical

Tucker, Donald Mixon
Melbourne, FL—Civil

Turner, Jr., Joseph Liddell
Richmond, VA—Mechanical

Vickburg, Carl Norton
New Orleans, LA—Chemical

Vierthaler, Jr., Joseph William
N. Lauderdale, FL—Mechanical

Wagner, Robert Murray
Lafayette, LA—Petroleum

Weed, Larry Lee
Metairie, LA—Civil

Wood, Gerald Louis
New Orleans, LA—Mechanical

Wood, Walter E.
Denham Springs, LA—Mechanical

Zickwolf, Robert Warren
Vicksburg, MS—Civil

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Garvey, Charles Carter
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LaSalle, Simon Alfred
Metairie, LA

McCullough, Donald I.
Houma, LA

Picciola, Larry Joseph
Raceland, LA

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Barton, Clarence W.
Tulsa, OK—Mechanical

Breaux, George Davy
Broussard, LA—Mechanical

Bush, Steven Randall
Baton Rouge, LA—Electrical

Cagle, James Alton
Metairie, LA—Electrical

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Timonium, MD—Civil

Cannizzo, Frank John
Northridge, CA—Mechanical

Carley, Gerald Gaines
Baton Rouge, LA—Mechanical

Chambers, Walter Wayne
Marshall, TX—Civil

Cohen, Edward
Williston Park, NY—Civil

Cox, Clyde Duncan
Gainesville, GA—Mechanical

Cox, David Oren
Baton Rouge, LA—Civil

Darooka, Dilip K.
Timonium, MD—Mechanical

Davidson, Sam Ronald
Delmar, NY—Civil

Davis, Douglas Joseph
New Orleans, LA—Electrical

Degges, Roy Lee
Slidell, LA—Industrial

Diamond, Harvey Edward
Humble, TX—Mechanical

Dixon, John Redmon
Overland Park, KS—Electrical

Douet, Adley John
St. Martinville, LA—Civil

Downs, James Everette
Alliance, NE—Mechanical

DuBois, Keith Richard
New Iberia, LA—Mechanical

Fairless, Robert Taylor
Metairie, LA—Civil

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Alexandria, LA—Mechanical

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Corappolis, PA—Civil

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Baton Rouge, LA—Civil

Gilbert, Lawrence William
New Orleans, LA—Civil

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Baton Rouge, LA—Mechanical

Hoda, Monawarul
Houston, TX—Civil

Houston, Calvin Eugene
Monroe, LA—Civil

Hurley, Loyce
Keithville, LA—Electrical

Hussain, Iktidar
Topeka, KS—Civil

Hwang, Kai-Shiu Kell
Shreveport, LA—Electrical

Jeansonne, Donald Paul
Cottonport, LA—Electrical

Kamboj, Madan Mohan
Metairie, LA—Civil

Kass, Marvin
Brooklyn, NY—Mechanical

Kelley, Alpheus Robert
Memphis, TN—Electrical

Killingsworth, Stephen Arthur
Lafayette, LA—Mechanical

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Marksville, LA—Civil

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Baton Rouge, LA—Mining

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Harrisburg, PA—Civil

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Shreveport, LA—Electrical

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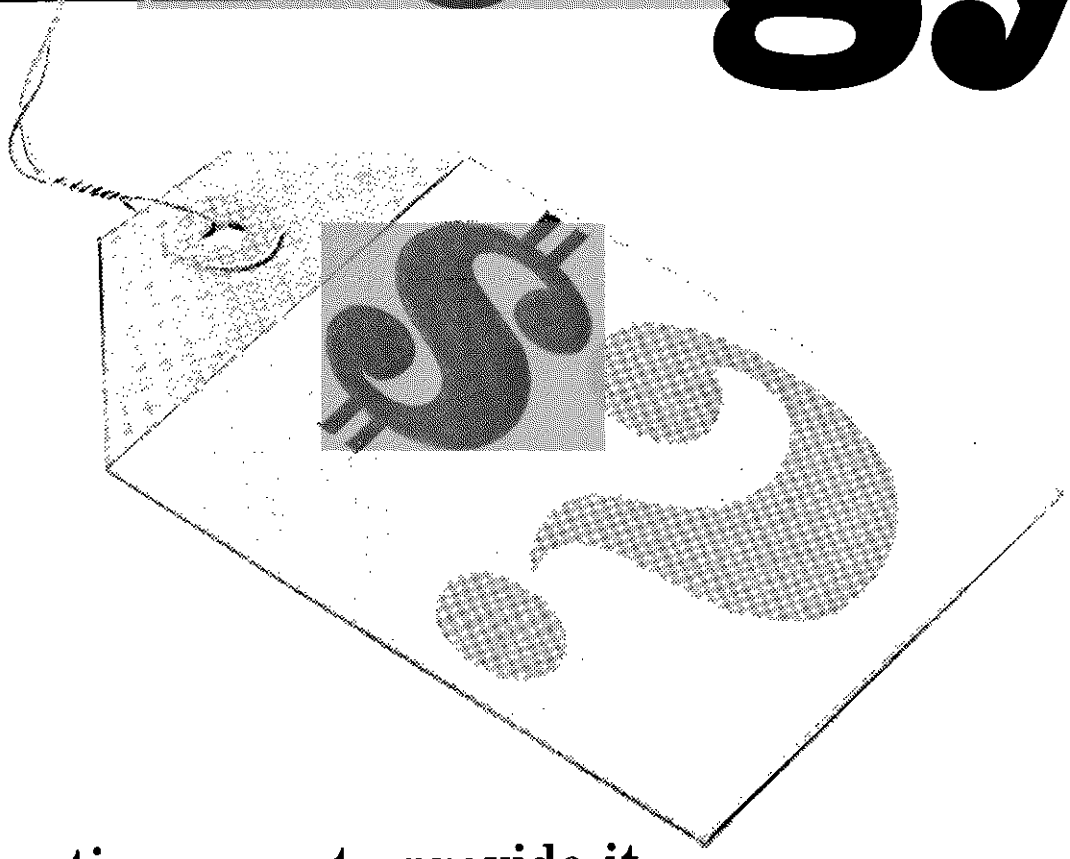

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August, 1977



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PROGRAM

Thursday, September 15

9:00 a.m. - 4:00 p.m. - Registration

Membership & Retention Workshop (Chapter officers and Membership Committee members should make every effort to attend this workshop.) Leader: Bill Gager, NSPE

10:00 a.m. - Introduction
10:15 a.m. - The Marketing Approach to Membership. What is NSPE?
12:00 noon - No-host lunch
1:00 p.m. - Discussion of Program & Activities
2:00 p.m. - NSPE Services and Programs. Tools to Sell
3:30 p.m. - Communicating to Many Audiences
4:00 p.m. - Adjournment
6:30 p.m. - Cocktails and Dinner, England Air Force Base

Friday, September 16

8:00 a.m. - 12:00 Registration

Chapter Officers' Training Conference

8:30 a.m. - Opening Remarks
9:00 a.m. - State Office, Operations and Services
9:15 a.m. - State Board of Registration
9:30 a.m. - Membership Development
9:45 a.m. - Legislative Activities
10:00 a.m. - Meetings & Programs
10:15 a.m. - Public Relations
10:30 a.m. - Inter-Society Relations
10:45 a.m. - Engineering Education
11:00 a.m. - Relations with State Board of Registration
11:15 a.m. - Ethics & Professional Conduct
11:30 a.m. - Engineers Week
11:45 a.m. - Practice Divisions, Purposes and Activities
12:00 noon - Luncheon, with Speaker

Council of Deans

11:00 a.m. - Meeting
12:00 noon - Luncheon, with above
1:00 p.m. - Meeting

1:00 - 3:00 p.m. - **Practice Division Meetings**
PEPP - Private Practice
PEI - Industry
PEG - Government
PEE - Education
PEC - Construction

3:15 - 5:15 p.m. - **Committee Meetings**
Engineering Education
Ethics & Professional Conduct
Inter-Society Relations
Legislative
Public Relations
Membership
Liaison, State Board
Honors & Awards

6:30 p.m. - Cocktails & Shrimp Boil (Refreshments hosted by Louisiana Industries, Inc.)

Saturday, September 17

8:00 a.m. - Joint Breakfast
9:15 a.m. - LES General Meeting
9:45 a.m. - LES Board of Direction Meeting

LADIES' PROGRAM

There will be interesting and enjoyable activities on Thursday and Friday.

REGISTRATION COUPON

21st ANNUAL TRAINING CONFERENCE - Ramada Inn, Alexandria, September 15-16-17

REPRODUCE OR CLIP AND MAIL: LES, P.O. Box 2683
Baton Rouge 70821

Name: _____
Wife's Name: _____
Address: _____
City _____ State _____ Zip _____

	No. Of Tickets
Registration (Men)	_____ *
Registration (Wives)	_____ *
Membership Seminar, Thursday (No charge)	_____
Dutch Treat Dinner and Cocktails England AFB, Thursday Evening	_____ *
Luncheon, Friday	_____ *
Shrimp Boil, Harold Miles Park, Friday Evening	_____ *
Breakfast, Saturday	_____ *
Ladies' Activities Thursday	_____ *
Friday	_____ *

* CHECK APPLICABLE FUNCTIONS. COST FOR EACH WILL BE REASONABLE AND COLLECTED AT THE REGISTRATION DESK AT CHECK-IN TIME.

GUEST ROOM RESERVATION

for LES 21st ANNUAL TRAINING CONFERENCE, Ramada Inn, Alexandria

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P. O. Box 7356,
Alexandria, LA 71306

$20 Deposit to guarantee room
Please reserve for: Name _____
Address _____
City _____ State _____ Zip _____
Arriving: _____, 19____ Length of Stay _____
Check accommodations desired—All rates subject to current taxes

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Two Double Beds	One Person	☐ $19	Two Persons	☐ $22
King Size Bed	One Person	☐ $19	Two Persons	☐ $22
Executive Suite		☐ $35		

☐ Crib (Free) ☐ Rollaway $3. ☐ Extra person $3 each.

If room at the rate requested is unavailable, one at the nearest available rate will be assigned. Check out time is 12 p.m. Rooms will be held until 6 p.m. unless guaranteed arrival. All rates subject to change.

E. E. Moncla Becomes LES President

E. E. "Buddy" Moncla, P.E., newly elected president of the Louisiana Engineering Society, is vice president of Ford, Bacon & Davis Construction Corporation in Monroe and vice president of Ford, Bacon & Davis International.

Born May 30, 1926, he received his formal education from Marksville High School and earned a BS degree in mechanical engineering from the University of Southwestern Louisiana in 1949. During World War II he was with the U.S. Navy and served two years with the amphibious forces in the South Pacific.

In 1949 Moncla worked with the Louisiana Highway Department constructing highway bridges. He joined Natural Gas Pipeline Company of America in 1950 and was resident manager on four pipeline aerial bridges, one of which was the longest aerial pipeline bridge in the world and the first suspension bridge across the Mississippi River.

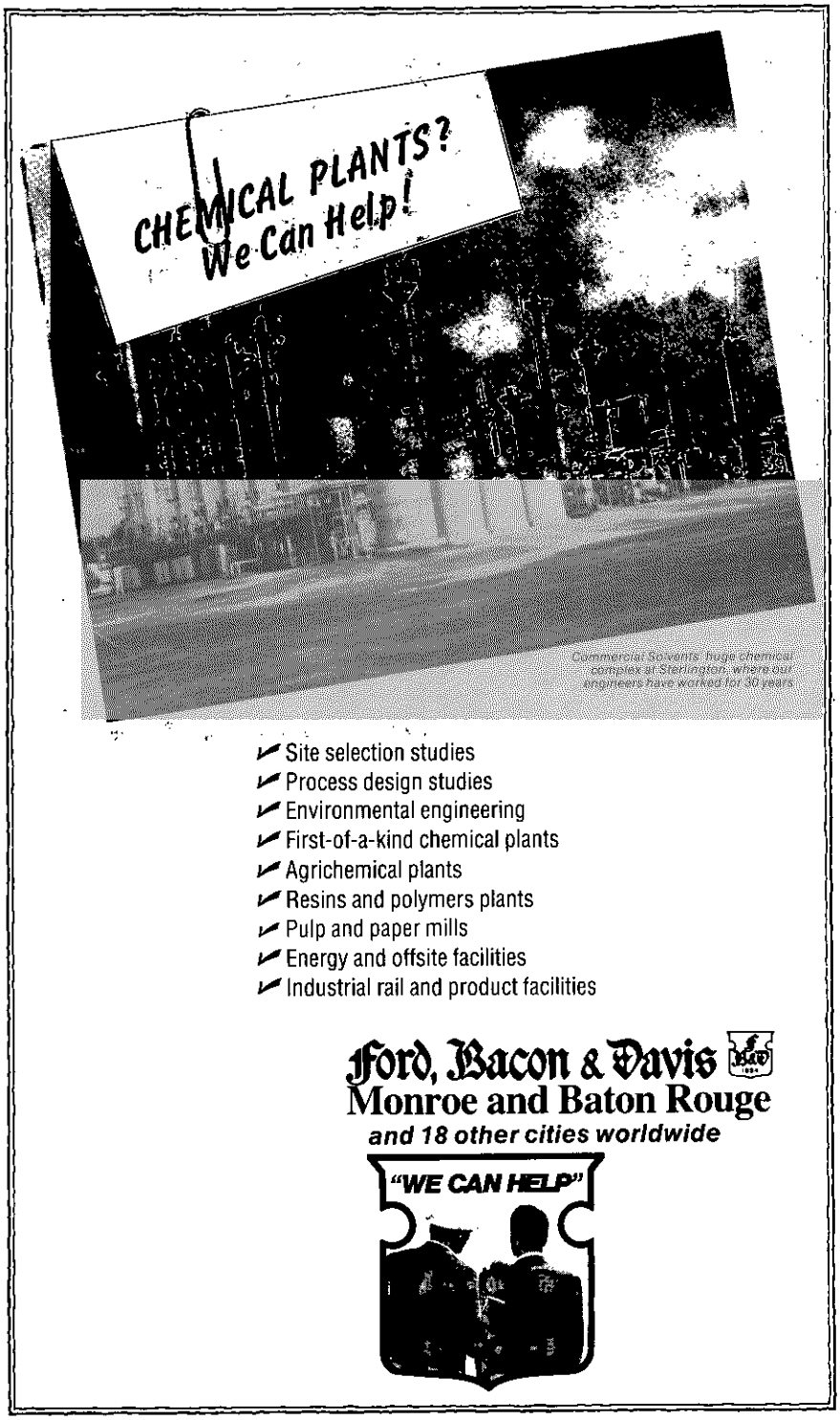
He joined Ford, Bacon & Davis as a field engineer and chief inspector in 1955 and since that time has been responsible for over 12,000 miles of pipeline for more than 30 client companies throughout the United States, Canada, and in the Gulf of Mexico. He has been accepted as an expert on pipeline matters in state and federal courts throughout this country and Canada.

In addition to being vice president, Moncla is manager of the Pipeline Services Department which employs over 400 engineers, draftsmen, survey personnel, inspectors, right of way agents, and material men. This department is presently involved in more than 50 pipeline projects, including the largest offshore pipeline and the Federal Energy Administration's strategic petroleum reserve project.

Moncla has been elected to all offices, including president, of the Monroe Chapter of the Louisiana Engineering Society, has served twice as state membership chairman, and has been state chairman of Louisiana's Engineers in Construction, a group he helped organize.

He is a member of the National Society of Professional Engineers, vice chairman of the Southwest Region of Professional Engineers in Construction, a member of the American Society of Mechanical Engineers, and a member of the American Right of Way Association.

Married to the former Beryl Saucier, Moncla has two children: Steve, a chemical engineering graduate of Georgia Tech, employed by Monsano Chemical in Texas City, Texas; and Susan, who is the mother of two children and resides in Shreveport.



August, 1977

LOUISIANA ENGINEER

The LOUISIANA ENGINEER is the offical 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.

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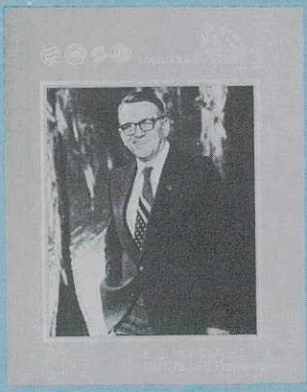

About the Cover

New LES officers, headed by E. E. Moncla, P.E., assumed office in July. For pictorial coverage of the entire slate of incoming officers, please see pages 12 and 13.

In This Issue

State Officers' and Training Conference 2
E. E. Moncla Becomes New LES President 3
Presidential Privilege 5
LES Year in Review 7
LES Adopts Resolution on Promulgation of Environmental Memorandum 11
Introducing LES's Newly Elected Officials 12
The Energy Crisis Revisited .. 14
Potpourri 16
EngiNEWS 18

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R. C. "Doc" Spears

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James W. Stevens, P.E.
Monroe
D. D. Reneau, P.E.
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Clare M. Foreman, P.E.
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Hugh A. Thompson, P.E.
Government
Gerald L. Ray, P.E.
Industry
Carroll J. Fuselier, P.E.
Private Practice
Frank Jenkins, P.E.

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Ethics & Professional Conduct
Harold P. LeRay, P.E.
Honors & Awards
Malcolm L. Hurstell, P.E.
Inter-Society Relations
Thomas S. Stone, P.E.
Legislative
Glynn P. Gautreau, P.E.
Liaison With State Board of Registration
John F. Vogt, Jr., P.E.
Membership
Henry E. Markel, Jr. P.E.
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Managing Editor
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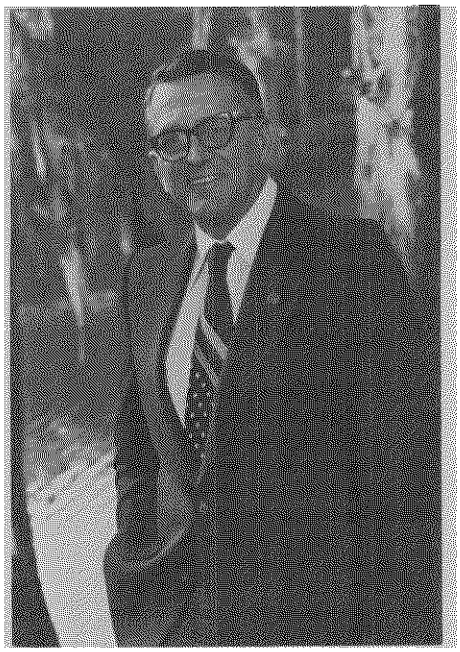
Presidential Privilege



E. E. Moncla, P.E.
President, LES

I am indeed grateful for the opportunity given me by all of you to serve as president of the Louisiana Engineering Society this coming year. Of all the opportunities over the past years, this is the one I will cherish the most. I consider the Louisiana Engineering Society to be a very active and progressive group with unlimited potential benefit to the profession, and serving as its president is a very special honor.

As the records indicate, with the very able Louisiana Engineering Society State Board under the dedicated leadership of Immediate Past President Jim Meyer, our accomplishments this year were outstanding. I am sure that there is not an engineer in Louisiana who will not be thankful for at least some of these actions, all of which are listed in the LES review article in this issue of the *LOUISIANA ENGINEER*.

This is my fifth year on the Louisiana Engineering Society State Board, having served through all the chapter officer positions, through the vice presidencies of the state society, being one of the founder members and past chairman of the Professional Engineers in Construction division and having just completed an assignment as vice chairman of the Southwest Region for our national organization, NSPE-PEC. This experience is the basis for my thoughts on what will be expected in the future from the engineers in Louisiana.

As president of the Louisiana Engineering Society, I see my duties as primarily to be of service to you. Our profession has much to be thankful for, and in this ever-changing world in which we live there is much more to be accomplished. The areas of most concern to all of us for the coming year—during which we will need input, guidance, assistance and direction from all engineers—are:

1. Energy. We can speak of the numerous reasons for the energy deficiency; but, regardless, we are there, and the bottom line is that it will take a lot of engineering technology to assist in solving this problem. This is by far the most serious problem facing all of Louisiana and the rest of the country. In addition to technology, we may need your vote tomorrow on state or federal legislation affecting energy supplies. If you are not a member we cannot lobby your position on the state and federal scene.

2. Sunset Legislation. If the Louisiana engineers do nothing we could shortly see the end of our state engineering licensing board. This would allow the practice of engineering by anyone regardless of qualifications and education. To assure quality engineering in order to further the protection, safety and well-being of the public, we all know that certification of professionals is a must. I, for one, do not wish to be in a society where this does not exist.

3. Environment. This also affects everyone in Louisiana. In order to continue progress and growth, we

Continued on page 6

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
- ☐ Lafayette
- ☐ New Orleans
- ☐ Non-Resident
- ☐ Shreveport
- ☐ Lake Charles
- ☐ Bayou
- ☐ Monroe
- ☐ Baton Rouge
- ☐ _____
- ☐ INTRODUCTORY MEMBERSHIP OFFER ACCEPTED

Date _____

Signed: _____

FUNCTIONAL SECTION PREFERENCE
(Check One)

- ☐ Government
- ☐ Private Practice
- ☐ Industry
- ☐ Education
- ☐ Construction

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 not a PE, EIT or LS.

1. _____
2. _____
3. _____

PRESIDENTIAL PRIVILEGE

Continued from page 5

must maintain a happy balance, and engineering technology is again in the forefront.

4. Engineering Education. Our efforts here are to continue to assist on improvements of quality education in Louisiana, continue our work with the Council of Deans, and assist our young engineers' entry into the professional ranks through the formation of engineering student chapters at all engineering universities.

5. Engineering Center. Support is needed and efforts are under way to build an engineering center in Baton Rouge to house the State Registration Board, Louisiana Engineering Society, Louisiana Land Surveyors, and other engineering groups.

The Louisiana Engineering Society is an organization of volunteers; we do not work outside of the engineering field, and we do not profess to be capable of producing miracles. The society has proved that much can be accomplished as a strong active organization of highly professional engineers from all over the state who are practicing in all disciplines in every area of engineering.

I am extremely grateful to be working with such a dedicated and competent group of state officers, practice division chairmen, chapter presidents and committee chairmen, and all engineers can be assured that these men will do their utmost to minister to the needs of the engineering profession in Louisiana.

As the adage goes, "You've come a long way, baby." We all must be very thankful to our engineering forefathers and to those who served the profession before us for the position we are in today. Most of all, we must repay this debt by doing our share to make this country a better place for our children and grandchildren to live in.

Whether your attention be focused on the problems of our environment, the diminishing of some of our energy supplies, or any of our other concerns, the cold, hard facts are that the engineers of Louisiana can't afford not belong to the Louisiana Engineering Society. There is no other place where for $30 a year you can obtain the services of a 25-member board of professional engineers, a full-time executive secretary, practice division leaders representing engineers in government, industry, private practice, education, and construction, and active committee chairmen working in all areas of society involvement.

As president of the Louisiana Engineering Society, I challenge all nonmembers to join with us. You can be of great benefit to the society, and the society can be of great help to you. We are presently involved in a project which will be beneficial to our engineering educators, and we have assisted every other discipline many ways in the past.

My commitment to you is that if you have a concern in any area where your society can be of help to you, merely communicate with our state office in Baton Rouge or with me. This will be turned over to the appropriate state officer, practice division chairman or committee chairman, and if you are not satisfied with the action taken, your only commitment has been your pro-rata dues. Write us, sending in the tear-out application accompanying this column, and let us show you what a well-organized society of professionals can do for you. As stated earlier, *you can't afford not to*.

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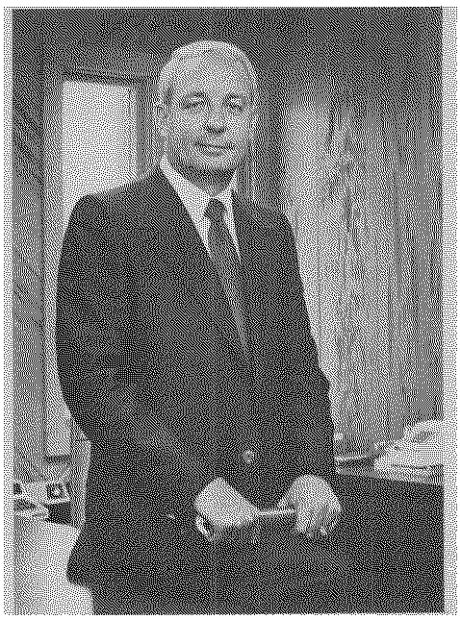
PEACE FROM A BEARDED OAK

LES Year in Review



James L. Meyer, P.E.
Immediate Past President, LES

The 1976-77 administrative year of LES was filled with many accomplishments and activities:

Membership

1. The 1977 LES membership increased 117 over the 1976 audit (45 members, 16 junior members, 29 affiliate members, 14 life members, six student members and seven privileged members).

2. LES won the NSPE membership contest ending November 30, 1976 and is leading in the 1977 contest through July 1977.

3. Three new student chapters were formed and accepted by LES: University of New Orleans, Louisiana State University-Alexandria, and Nichols State University.

4. LES endorsed and participated in the NSPE first year's reduced dues program and has gained 120 NSPE members through June 1977.

5. LES passed a much-needed dues increase. Member dues were raised from $25 to $30 annually. Under the new amendment, dues may be increased in succeeding years provided that the amount does not exceed an accumulative five percent per annum.

6. Financially, the dues increase made it possible to end the year with a small surplus. No dues increase is planned for 1977-78.

Activities

1. LES filed an *amicus curiae* brief with the Louisiana First Circuit Court of Appeal maintaining that competitive bidding for engineering services is not in the best interest of the public and the profession. The Court ruled on May 9th that the failure to let the engineering services out for competitive bid was not a violation of Louisiana law.

2. Sixty-two high school student nominations for the NSPE scholarship program were received. Sixteen were picked as Louisiana winners and forwarded to NSPE.

3. To determine the need for specialized education for engineers, engineering technologists and technicians, LES conducted a survey of organizations in Louisiana employing engineers. The results of this survey will be evaluated and recommendations made to the engineering colleges of the state.

4. LES inaugurated and implemented a new program to present EIT and PE certificates at chapter meetings. Congratulatory letters are sent to the new registrants with a request that they allow LES to present their registration certificate at a chapter meeting. The program shows great promise toward indoctrination to LES activities and promotion of membership.

5. The Inter-Society Relations Committee developed a leadership profile and brought into focus a desirable level of communications among all engineering groups and design professionals in the state.

6. The Ethics and Professional Conduct Committee was kept busy during the year. To illustrate the impact of the committee, an engineer's contract problem with the Louisiana Highway Department was resolved by mutual agreement following the recommendation of the committee.

7. All eight local chapters observed Engineers Week, February 20-27, with special meetings, news releases, radio and television coverage, newspaper supplements and other public relations programs. Each of the special events helped to further the 1977 theme, "Engineering . . . Key to the Future."

8. LES submitted to the governor five candidates for each position to fill two terms expiring July 31 on the Louisiana State Board of Registration for Professional Engineers and Land Surveyors.

9. The general membership voted approval of two amendments to the LES constitution: clarification of "approved standing" to allow for establishment of Alpha, Beta and Delta student chapters; and permission for chapters and practice divisions to have representation and voting rights at board meetings when the chapter president or the practice division chairman cannot attend.

10. In September 1976 the LES Board adopted a policy statement encouraging the teaching of professionalism in engineering schools in Louisiana. Implementation of this goal is under way. It has been reviewed and discussed by the Council of Deans, the State Board of Registration, and many engineers throughout the state. Progress has been slow, but efforts continue.

11. LES was active in the 1977 Louisiana legislature. No bills were introduced by the society, but LES co-sponsored CEC/L bills on liens in the public sector and preemptive period legislation. LES works closely with LABI and monitors all legislative activity.

12. LES is studying the feasibility of constructing a building in Baton Rouge to house the state headquarters. A committee has been appointed to recommend sites, estimate cost, propose plans for financing, and investigate possibility of tenants including the State Board of Registration, CEC/L and other engineering organizations.

13. LES endorsed the NSPE Employer Recognition Plan. Copies of *Guidelines to Professional Employment for Engineers and Scientists* are distributed to organizations that employ engineers. Those organizations who concur that the guidelines provide desirable criteria for fair and equitable employment practices for both employer and employees are recognized and publicized. On May 20, LES submitted a list of 204 organizations to NSPE for their follow-through in the program.

14. An ad hoc Municipal Practices Committee was appointed to study and report on municipal regulations, permits and inspections in cities, parishes and the state.

Continued on page 8

Continued from page 7

15. Act 721, supported by LES, was passed in the 1975 legislature to set up a seven-man Engineers Selection Board of which two members are elected by the Louisiana Engineering Society. LES conducted an election for two terms on the Selection Board in June. Ballots were mailed to every registered professional engineer in the state. Herb R. Pourciau, P.E., Morgan City, was elected for the term July 1, 1977 to June 30, 1978 and William Rose, P.E., Metairie, was elected for the term January 1 to December 31, 1978. The Engineers Selection Board has awarded 10 state projects totaling $4.9 million during the past year.

Honors and Awards

1. Waldemar S. Nelson, P.E., New Orleans, was elected vice president of the NSPE Southwestern Region in 1977, the first LES member to become a member of the NSPE Executive Committee.

2. Five engineers were recipients of awards presented at the 1977 Spring Meeting: the James M. Todd Technological Accomplishment Medal to John C. Copes, P.E.; the F. Hugh Coughlin Young Engineer Award to John W. Moore, P.E.; the Leo M. Odom Award for Professional Services to Waldemar S. Nelson, P.E.; the A.B. Paterson Medal for Engineer in Management to Raymond E. Pillow, P.E.; and the Andrew M. Lockett Medal for Civic Activities to Frank H. Walk, P.E.

3. R. C. Spears, executive secretary of LES, was selected recipient of the 1977 NSPE-PEI Distinguished Service Award.

4. The Freeport Sulphur Company of New Orleans was selected winner of the Louisiana 1977 Industrial Professional Development Award.

5. The Leo M. Odom Award for Professional Services was funded in perpetuity by many friends of Leo Odom.

Meetings

1. The annual LES-MES convention was held in Baton Rouge in July 1976. In the past, these meetings have alternated between Biloxi and New Orleans. The change did not hurt attendance. Mississippi was represented by 82 people and LES by 154.

2. One of the largest groups ever, 119 engineers and 55 wives, attended the annual Chapter Officers' and Training Conference in Alexandria in September.

3. The April LES Spring Meeting in Houma was an outstanding success. One-hundred-thirty engineers and 88 wives attended, the largest attendance to date for this annual event.

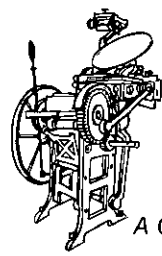
Publications

1. The *LES Perspective*, distributed six times a year, was changed from a mimeographed to a printed format and has received wide praise.

2. The six issues of the *LOUISIANA ENGINEER* appearing in August, October and December 1976 and February, April and June 1977 published some outstanding features. Among them were: "LES in Review" by Malcolm L. Hurstell, P.E.; "Recovery 1 - New Orleans Re-

Continued on page 20

Services and Contractors



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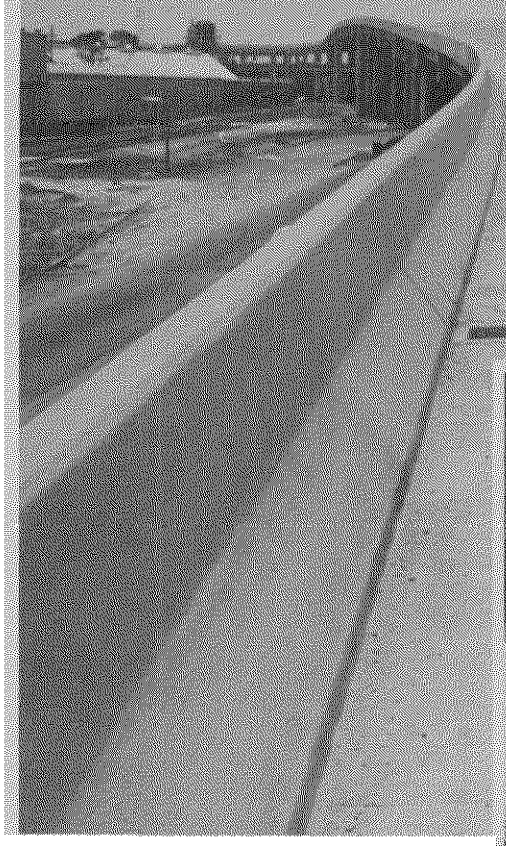

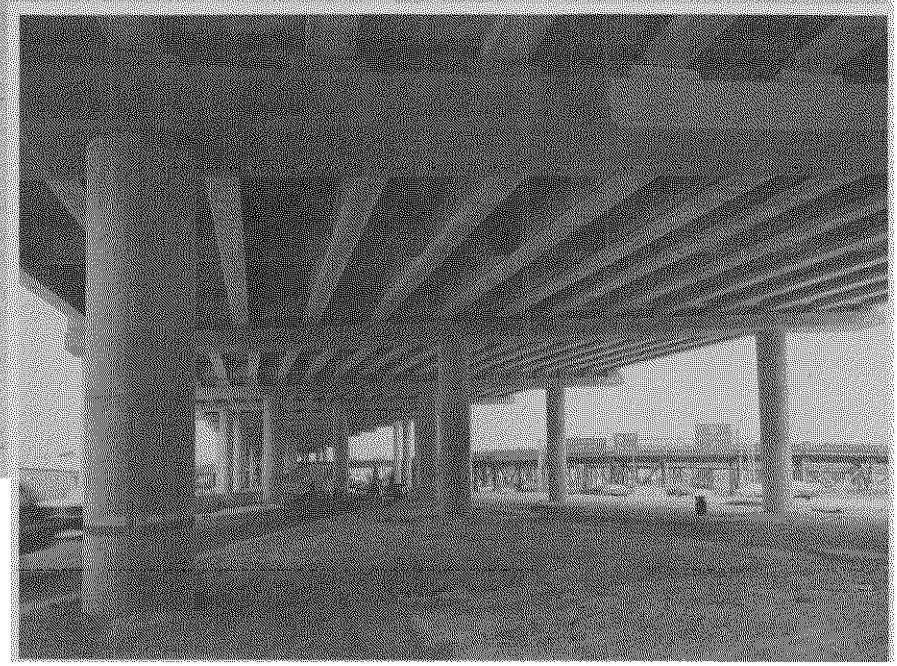

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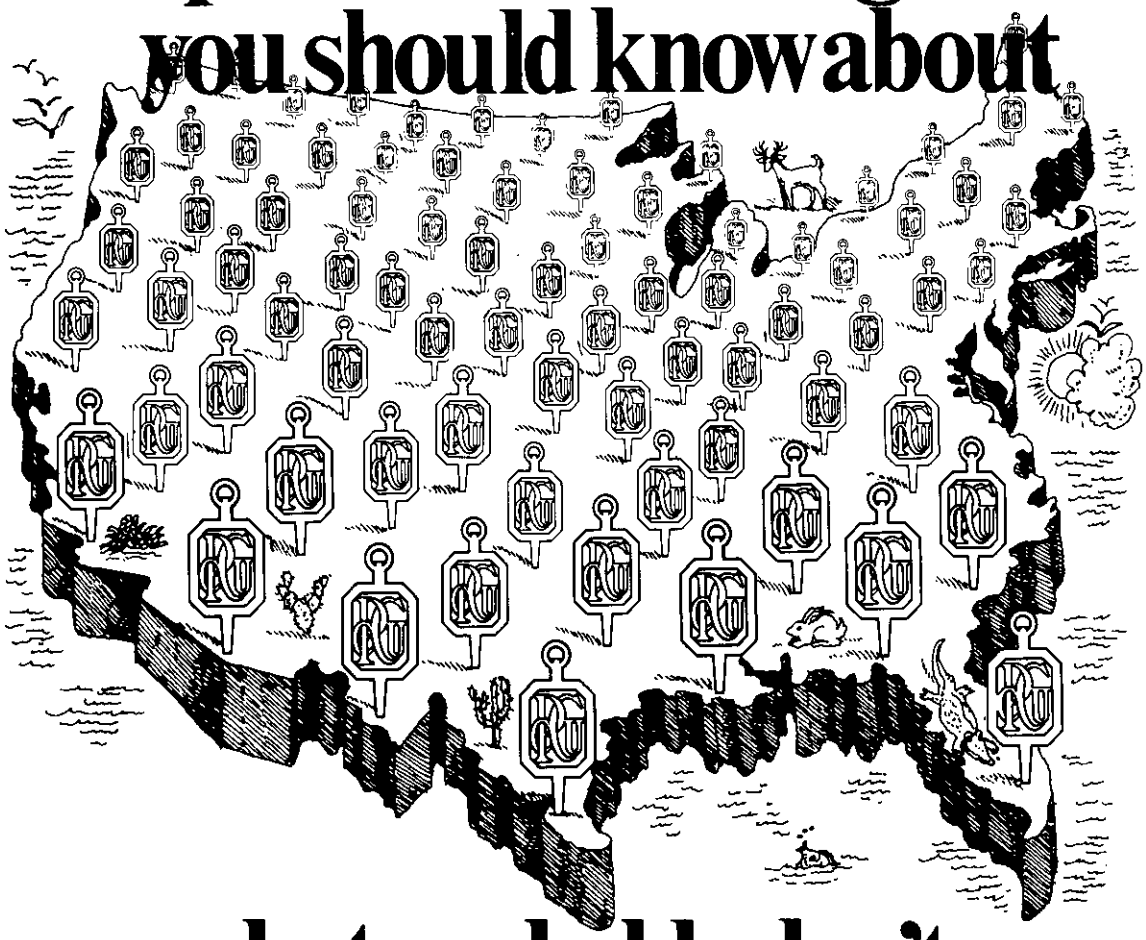

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LES Adopts Resolution on Promulgation Of Environmental Memorandum

The LES Board of Direction passed the following resolution at its Board meeting in Biloxi on July 23, 1977:

RESOLUTION

WHEREAS, the U. S. Environmental Protection Agency has promulgated Program Requirements Memorandum (PRM) No. 77-8 on June 21, 1977, which will affect all projects involving collection systems except those currently in "Step 3," and

WHEREAS, the promulgation of regulations via PRMs circumvents public input and discussion, and

WHEREAS, PRM 77-8 will have a dramatic effect on collection system projects by reducing the amount of Federal participation, and

WHEREAS, the adoption of new regulations for ongoing projects which, in many cases, have already undergone general public participation including public disclosure of cost and bond elections to arrange for the local share of the project cost, and

WHEREAS, the implementation of PRM 77-8 on a retroactive basis will adversely affect the credibility of the U. S. Government and may embarrass and affect the credibility of engineers working on EPA projects, and

WHEREAS, professional engineers have supported the implementation of the "Step 1, 2, and 3" process established pursuant to PL 92-500, with the very basic premise that rules affecting a project "Step 3" grant would be the same as those in effect at the beginning of the project "Step 1" grant,

NOW THEREFORE BE IT RESOLVED that the Louisiana Engineering Society advise the U. S. Environmental Protection Agency, the Louisiana Congressional Delegation and the National Society of Professional Engineers of its strenuous objection to the promulgation of PRM 77-8 and further that no PRM be approved, without:

1. Prior publication of the intent to adopt such far-reaching requirements without benefit of public participation.
2. Consideration of the negative effects such procedural changes can have on ongoing projects.
3. Consideration for the further erosion of public confidence in the Federal bureaucracy.
4. Consideration for the potential threat such retroactive procedural changes can have on the credibility of engineers who have prepared estimates and advised grantees of project costs and funding based on PL 92-500.

BE IT FURTHER RESOLVED that a copy of this resolution be made available to those named above, the Louisiana Health & Human Resources Administration, the American Consulting Engineers Council, the Consulting Engineers Council of Louisiana, Inc., the Louisiana Municipal Association and the Police Jury Association.

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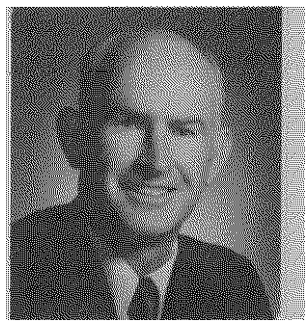

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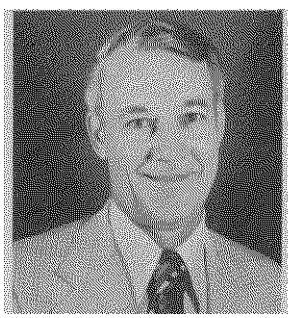

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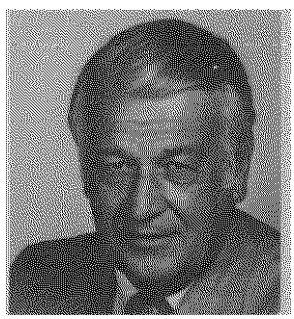

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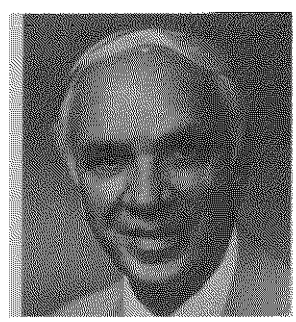

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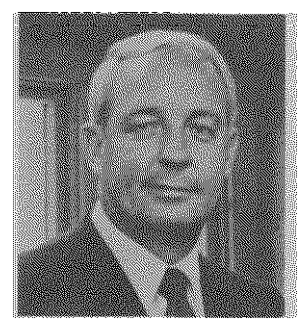

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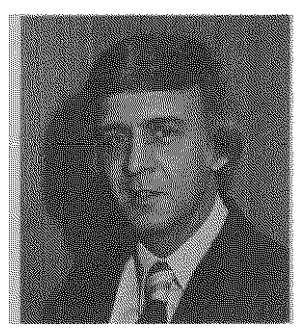

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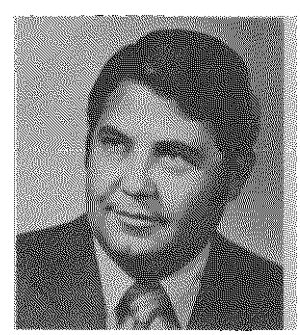

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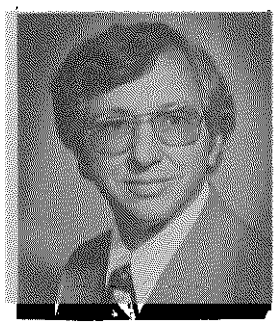
New Chapter Presidents and Practice Division Chairmen

Chapter Presidents:

Chapters are the foundation of the Society's organization. Chapters are located in Alexandria, Baton Rouge, Lafayette, Lake Charles, Monroe, New Orleans, Shreveport, and the Bayou serving Morgan City, Houma, and Thibodaux areas.



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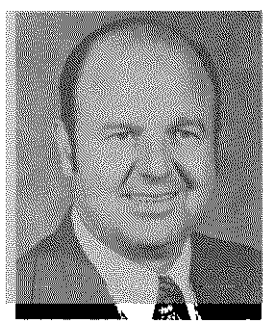

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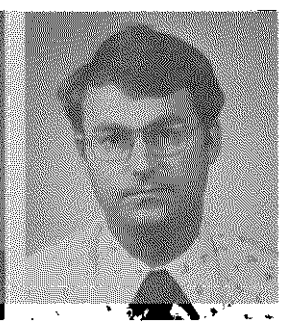

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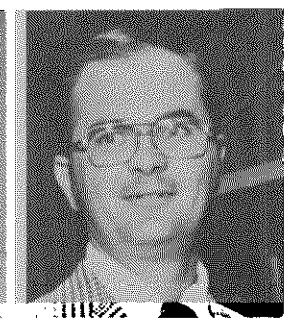

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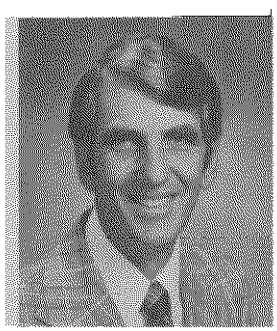

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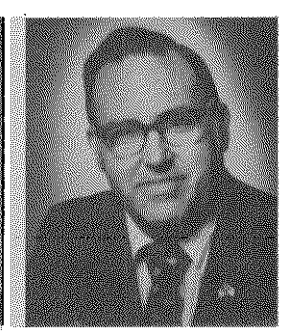

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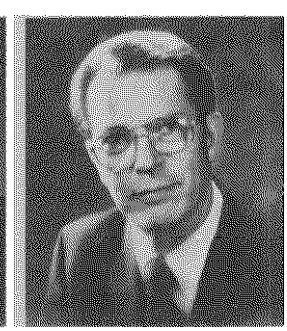

Shreveport
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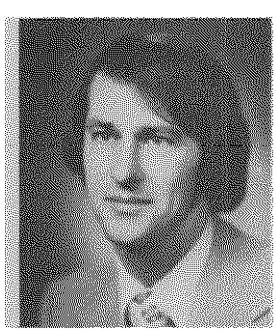
Chairmen, Practice Divisions:

LES has five practice divisions, which provide the means for engineers to develop professional relationships with others in the same field of employment.



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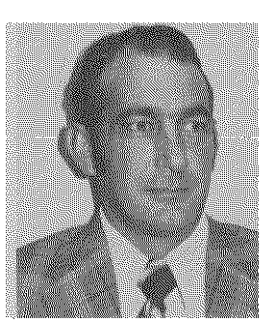

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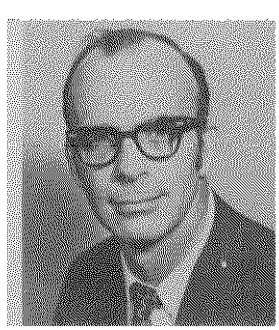

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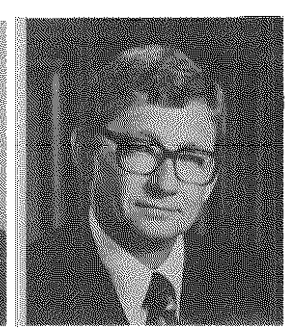

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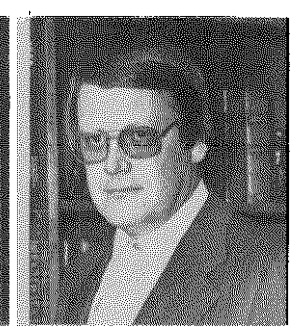

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The Energy Crisis Revisited

EDITORIAL NOTE: *The following interview appeared earlier this year in a special pamphlet prepared for the shareholders of Dresser Industries, Inc. It is reprinted here by permission.*

Dr. John J. McKetta is professor of chemical engineering at the University of Texas and among the country's most qualified spokesmen on the subjects of energy and environment. In 1970-71, he served as chairman of the Advisory Committee on Energy to the Secretary of the Interior and, during that period, was among the first authorities to call attention to the serious energy problem facing a then unaware United States. His predictions have been chillingly accurate.

Dr. McKetta is a charter member and a director of the National Council for Environmental Balance. He was chairman of the Committee on National Air Quality Management for the National Academy of Science and Engineering, 1970-75. In 1976, Dr. McKetta received the coveted Lamme Award from the American Society of Engineering Education, the Joe J. King Professional Engineering Achievement Award and the Triple E Award from the National Environmental Development Association for outstanding contributions to the national issues of energy, environment and economics. He is widely published internationally on these subjects as well as chemical technology, processing and design.

Dr. McKetta's wide scope of interests and accomplishments makes him exceptionally well qualified to present a balanced, expert opinion and timely warning about the threatening nature of our country's energy situation today.

Q. Dr. McKetta, for more than a decade you have consistently stated that the United States energy situation was growing progressively worse. Is that still your view?

A. In 1971, I termed the circumstances serious. But we have since passed that point. We are now facing disastrous consequences from our inability to meet our energy needs.

Q. What are our chances of rectifying our energy predicament?

A. Unfortunately, since the gravity of our problem was spotlighted by the Arab oil embargo in 1973, almost everything we have done has tended to worsen the situation. Time is running out on us. Even if we could move tomorrow to develop a workable energy policy and were able to implement it at once, we would still experience at least a deterioration in our standard of living in this country by 1985. If we do not move quickly, the situation will become dire.

Q. Would you please elaborate on what you mean by dire?

A. I mean that we will experience deep and painful disruptions in our whole economy. We will have a severe recession by 1985, brought about by shortages of domestic energy. In fact, unless we move immediately, there will be an energy shortage in the United States that we simply cannot imagine at this time. Most of this is, and will be, caused by the vote consciousness and shortsightedness of our government in energy matters.

If we allow our energy programs to drag on as they are today, I predict the government, by 1985, will have on its payrolls a large number of "regulators" who will appear at our homes to make certain that we maintain low temperatures in the winter and high temperatures in the summer, and that our clothes dryers are permanently disconnected. Air conditioners in automobiles will be banned and we will drive on Saturday and Sunday for emergency purposes only.

I further predict that escalator use will be prohibited, elevator use severely limited, that unemployment will be as high as 14 percent, prime interest rates as high as 15 percent and that we will have the worst recession in the history of the country.

Q. Since the oil embargo, the prices of crude oil have gone up substantially; drilling activity has been increasing steadily and the Federal Power Commission recently set a new price ceiling of $1.42 per thousand cubic feet on new interstate natural gas. Haven't these factors brightened the domestic energy outlook?

A. The $1.42 price level has not been fully resolved. If it were, it would improve to a small degree the economics of gas production. Still, all the factors you cite can do little, if anything, to prevent the disasters we face. The increase in drilling activity has been insignificant when weighed against the problem.

In 1974, the United States produced nine million barrels of oil per day. The figure declined to 8.5 million in 1975, and declined again in 1976, even while demand was rising at higher than expected rates. We aren't gaining in production—we are continuing to lose ground. We aren't moving toward energy self-sufficiency; we are moving farther away from it. Just a few years ago, we were importing about 25 percent of the oil used in this country. In 1976, we imported approximately 45 percent, and the figure is still growing. Our increasing dependence on imported oil brings greater risks of another embargo, and more intimidation in the conduct of our foreign policy. This endangers and jeopardizes our nation.

Since 1956, our total energy demand growth rate has outstripped our total energy production growth rate, causing a disturbingly high growth rate in energy imports.

Q. What about energy sources other than oil and gas? Can we count on them to close the gap between our production and demand?

A. Our projection regarding other U.S. energy sources has declined substantially between 1970 and 1975. In 1970, we estimated that all of our energy sources could provide 95 quadrillion British Thermal Units by 1985. Our 1975 estimates show that we were overly optimistic and now we expect only 62 Q's* from all energy sources by 1985.

While our predictions of oil and gas production by 1985 have been revised downward by three Q's, predictions of supplies of other energy sources, such as coal, nuclear, geothermal, solar and synthetics, have been revised downward by almost 30 Q's. The outlook now is that coal will be the only energy source other than oil and gas that can make a significant contribution to our energy supplies over the next 10 years.

Nuclear energy, for example, will provide only about nine Q's by 1985, if all planned nuclear plants are actually built.

At the same time, 1975 predictions of 1985 energy demand have been revised upward from the 1970 estimates. As well as we can determine between now and 1985, the gap between the supply and demand estimates widens perilously. What's more, in 1976, it appears that we were not able to produce even at the low level of the 1975 estimates.

* One Q equals one quadrillion British Thermal Units. This is the energy in one trillion cubic feet of gas or 46 million tons of coal or 180 million barrels of oil or 243 million megawatt hours.

Obviously, we must make every effort to develop all energy sources, but oil, gas and coal are the only ones that can make a significant contribution to our needs in the immediate future, or, at least, the next two decades. We have no choice but to concentrate our efforts on hydrocarbons, especially oil and gas, until other sources of energy are able to share the load—probably around the year 2000.

Q. What are the consequences of our rising energy imports?

A. First, we must conclude that our increasing dependence upon imported oil could result in a profound and dangerous weakness in the U.S. position abroad. Today, for example, we face the dilemma of supporting Israel, with whom we have religious and friendly ties, or supporting the Arab states, whose oil supply is vital to our nation.

Second, there is the specter of economic disaster. In 1976, the U.S. cost of imported energy liquids was $37 billion. It was only $6 billion in 1973. If we project import trends based on our 1970 production and demand projections, we would need to import eight billion barrels of oil during the year 2000. The cost of that amount of fuel could be over $200 billion. This is equivalent to 20 million new jobs at $10,000 per person per year. If we use 1975 projections for production and demand, the situation becomes even more disastrous.

We should also keep in mind that our rising bill for energy imports has the same effect as if our tax bill were increasing. . . . The result is that industry has less funds to provide new jobs and consumers have less funds available to spend to support employment.

Q. Is our growing dependence on imported oil proof that the United States is running out of oil and gas?

A. No, the tragedy of our problem is that the crisis is developing even though expert scientific studies indicate there are sufficient domestic resources of crude oil and natural gas to last for the foreseeable future, and certainly until other energy sources, such as nuclear power, develop to the point of supplying the greater part of our needs. As of 1975, the United States had proved recoverable reserves of about 228 trillion cubic feet of gas and 34 billion barrels of oil. Estimates of undiscovered U.S. recoverable potentials go as high as 750 trillion cubic feet for gas and 104 billion barrels for oil.

Q. You mentioned earlier that in addition to oil and gas, coal must be used more extensively. Why is its use limited now?

A. In 1970 the Mine Safety Act and EPA regulations caused declines in the production and usage of coal. Twenty-two percent of the total mines were closed during 1970-71. Since that time, restrictions on the use of high sulfur coal have decreased usage. Production and usage have risen since 1971, but 1975 levels will have to triple by 1985 if we are to approach self-sufficiency.

Q. What must be done to reverse the energy situation in this country?

A. Simply stated, we must close the gap between supply and demand. More precisely, we must adopt an energy policy that establishes specific objectives and provides the incentives and controls required to achieve them.

Our strategy should be to increase domestic production and reserves of oil and gas over the short term, say to 1990, to gain time for development of our alternate energy resources.

Q. Specifically, what steps should be taken to accomplish this?

A. One of the first steps should be to return to a free market for energy. If we decontrol the price of oil and gas, we will have higher prices. Although basically unpopular, higher prices would help correct our energy situation in two ways: first, they would slow demand; second, they would spur domestic exploratory drilling, which would eventually increase both our production and reserves. We know from the experiences of other countries that when gasoline costs more than a dollar a gallon, consumption drops substantially.

Higher prices for oil and gas would also encourage greater recovery of oil and gas from existing wells. Only about 35 percent of known oil deposits is recoverable using present technology. Higher prices would allow technological advances which, in turn, would contribute to improvement in recovery rates of existing oil reserves. Also, there are known natural gas deposits that are not now commercial; higher prices would change the economics, encourage drilling in those fields and help increase our gas production.

In addition, we need to triple the use of coal, because it represents our most abundant and easily accessible source of domestic energy.

Q. Do you have other thoughts about making the problem less severe?

A. In addition to accelerating our production, we need to conserve energy through more efficient use. One area subject to significant improvement is power generation. For example, the conversion of natural gas to electricity results in an energy loss of over 30 percent. Also, we should convert immediately to coal for electrical power generation, especially in states that do not produce large quantities of natural gas.

We should declare a moratorium on automotive catalytic converters and exhaust gas recirculation devices, except in the few cities with special environmental problems, and put lead back into gasoline so that we could return to the more efficient engines for automobiles.

We must become reasonable about environmental demands and establish trade-offs between energy development and environmental constraints. We need to review many of the obstructive governmental regulations. We have to take a more rational approach to the prudent use of nuclear energy. Finally, research must be increased to develop every practical energy source as rapidly as possible.

Q. Is it too late to head off our energy shortage?

A. Yes, it is too late to completely eliminate the gap between supply and demand over the next 15 years. Some of the actions we just discussed, however, would decrease oil demand by about two million barrels per day and increase the oil supply by some three to four million barrels per day by 1985.

As I said at the outset, time is running out. No matter what we do, we are going to feel the adverse effect of the energy crisis on our living standards.

America has the resources to solve our energy problem. Our only hope is that the U.S. Congress will put national interests above politics and adopt a comprehensive energy policy that will reduce our energy problem to manageable proportions.

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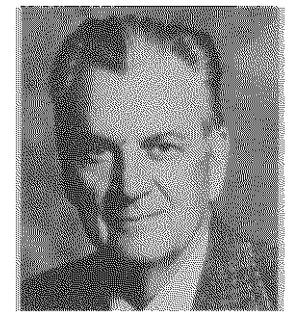

Seventh Annual LES-MES Convention

The annual LES-MES convention held in Biloxi July 21-23 was a huge success. The various functions were productive, enjoyable and well attended. Over 200 engineers registered for the convention, approximately 100 from each society. The weather was hot and sunny, improving the golf, tennis and fishing contests.

Dr. Harry Munn, Jr., associate professor in the Department of Speech Communications, North Carolina State University, presented an excellent program on leadership and motivation of the volunteer. **Del Schmand, P.E.**, NSPE president, installed the 1977-78 Louisiana and Mississippi officers at a banquet Friday evening.

The eighth annual meeting is scheduled for next July at the Royal Sonesta Hotel in New Orleans. MES is not sure whether it will continue the joint association. We will report more on this item at a later date.

Congratulations to **Roger Lind, P.E.**, MES president, **Mr. and Mrs. Jim Fairley, Trudy Cessna** and the many other Mississippi members who did so much to make the meeting a rousing success.

LES Well Represented at NSPE Meeting

LES was well represented at the NSPE meeting in Anaheim, California July 11-16. Those attending were **E. E. "Buddy" Moncla, P.E.**, president-elect; **Marvin Firmin, P.E.**, NSPE-PEC vice chairman for the Southwest Region; **Frank Jenkins, P.E.**, PEPP chairman; **Al Adoue, P.E.**, representing PEI and convention chairman for the next NSPE Winter Meeting in New Orleans, January 22-29; **Art DeFraites, Jr., P.E.**, PEPP and state director; **Larry Grundmann, P.E.**, state director, **James S. Janssen, P.E., John Vogt, P.E.**, and **A.J. Szabo, P.E.**, national directors; **Waldemar S. Nelson, P.E.**, 1977-78 vice president for the NSPE Southwest Region; **Herb Pourciau, P.E.**, PEC; and **R. C. Spears**, executive secretary.

The following ladies accompanied their husbands and enjoyed the tours, Disneyland and the weather: **Mmes. Moncla, Janssen, Szabo, DeFraites, Firmin, Grundmann, Vogt and Spears.**

The practice divisions met Monday to Wednesday and the Board of Directors convened Thursday through Saturday noon. The 1977-78 NSPE officers were installed Friday evening at a banquet. **Del Schmand, P.E.**, Arkansas, was installed as NSPE president and **Waldemar S. Nelson, P.E.**, assumed the helm as vice president of the Southwest Region.

PEG Practice Division Officers for 1977-78

The 1977-78 officers for the PEPP, PEI, PEE and PEC practice divisions were published in the June issue of the *LOUISIANA ENGINEER*. The PEG practice division officers for 1977-78 are:

Chairman	**Gerald L. Ray, P.E.**	Baton Rouge
Vice Chairman	**James C. Porter, P.E.**	Baton Rouge
Secretary	**Jesse Simmons, Jr. P.E.**	Alexandria

Ritter Recognized as Kiwanis "Distinguished Governor"

John E. "Skip" Ritter, secretary-treasurer of LES, received the Distinguished Governor Award at the 62nd annual Kiwanis International Convention in Dallas on June 27.

Ritter is immediate past governor of the Louisiana-Mississippi-West Tennessee Kiwanis District. The awards and gold finger rings are given annually by the Kiwanis to leaders whose districts meet or surpass rigid criteria for achievement in growth, administration, programming and community service.

Congratulations to Skip Ritter.

LES Membership Compared to Potential

In July 1977, a comparison of professional engineers and engineers-in-training members was made with the State Board of Registration's list of registered professional engineers and EITs residing in the state. It shows that LES membership is 29 percent of the total potential membership.

The following is a breakdown, by chapters, of the ratio of present to potential registered members: Alexandria, 59 percent; Baton Rouge, 28 percent; Bayou, 43 percent; Lafayette, 32 percent; Lake Charles, 31 percent; Monroe, 43 percent; New Orleans, 23 percent; and Shreveport, 31 percent.

NSPE Scholarship Program

NSPE will offer 83 scholarships to high school seniors in 1977-78. All LES chapter presidents should appoint a chapter committee to furnish high schools in their area with explanatory material on the program, which is available now from NSPE Educational Foundation, 2029 K Street, N.W., Washington, DC 20006.

Last year, LES considered 62 applications and submitted 16 student candidates from six chapter areas. We had no national winners. There will be a winner in 1977-78 because LES has established an LES scholarship comparable to the NSPE awards. All eight chapters are urged to participate in this most worthwhile program. For details, contact the LES scholarship chairman, **Dr. Paul N. Hale, P.E.**, Box 5503, Tech Station, Ruston 71270.

NSPE Membership Contest

The NSPE membership contest which started November 30, 1976 and ends on the same date this year, shows LES leading Group IV (all states with 851 to 1,120 NSPE members) with a 19-percent gain as of June 1. LES has gained 202 NSPE members, but 154 of our members are in arrears. Please pay your NSPE dues prior to November 30 in order for LES to maintain its Number 1 position. Maryland is our nearest competitor with a 16-percent gain, and Colorado is third with 14 percent.

Engineers Selection Board

New officers elected for the Engineers Selection Board on July 18 are **Norris Decouteau, P.E.**, chairman, and **Gene Harrell, P.E.**, vice chairman. Other members of the Board for the July 1, 1977 term are **Michael Abrahm, P.E., Herb Pourciau, P.E.**, and **Bruce Earle, P.E.** The Board is one member short, a gubernatorial appointee.

At the meeting on July 18, **Ben Meyer, P.E.**, head of the Louisiana Office of Facility Planning and Control, discussed the nonavailability of funds for the selection boards, the selection procedures, and gave some details on one emergency project. The next meeting of the Board will be August 22 in Baton Rouge.

American Concrete Institute Conference

The American Concrete Institute (ACI) will hold its National Fall Conference at the Braniff Place Hotel in New Orleans October 16-21.

ACI committee meetings and technical programs will be held October 17 and 18. A general session is scheduled for October 19, and technical and educational meetings are planned for October 20 and 21.

Some of the technical sessions planned include "The Extensive Use of Prestressed Concrete Piling in the Gulf South Area," Floor Slab Curing—Critical but Often Neglected," Superplasticizers," and "A Close Look at the Cusum Method of Controlling Concrete Strength."

A variety of recreational activities is planned, including a cruise on the riverboat *Natchez.*

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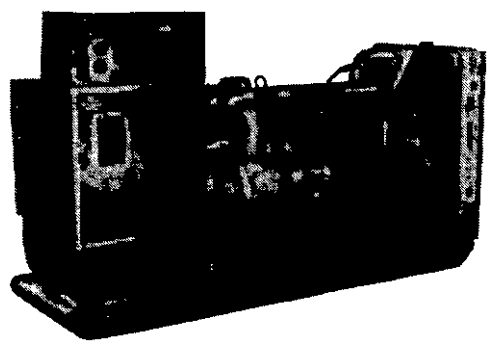

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EngiNEWS

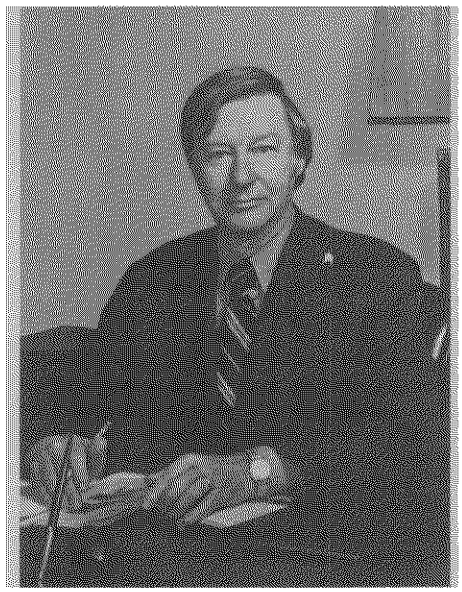
Ford, Bacon & Davis Names Culpepper New President

Fred C. Culpepper, Jr., P.E., a past president of the Louisiana Engineering Society, has been elected president and chief operating officer of Ford, Bacon & Davis, Inc., New York.

The 83-year-old firm, one of the largest of its kind in the United States, is engaged in the design, engineering and construction of heavy industrial plants, cross-country pipelines and related technical services.

A registered engineer in 12 states, Culpepper is the current chairman of the Louisiana Board of Registration for Professional Engineers and Land Surveyors.

In his new position Culpepper is responsible for the continuity and coordination of all operations of the various company divisions—Ford, Bacon & Davis International (New York), Ford, Bacon & Davis Construction Corporation (Monroe), Ford, Bacon & Davis Texas, Inc. (Dallas), Ford, Bacon & Davis Utah, Inc. (Salt Lake City), and Ford, Bacon & Davis Canada, Ltd. (Calgary).



Fred C. Culpepper, Jr.

International offices are located in London, Brisbane and Sao Paulo. The firm has some 1,000 staff employees in its 20 domestic offices and branches abroad.

Culpepper joined Ford, Bacon & Davis in 1941 after receiving a degree in civil engineering from Virginia Military Institute. After service as a paratrooper in Europe in World War II he returned to the company to serve in various capacities, including project manager during the firm's engineering and construction management of the first coal slurry pipeline in the United States.

In 1970 he was named vice president and resident manager of the Monroe division, and he was elevated to the presidency of that corporation in 1975.

He also is the senior director on the parent firm's board, president of Bayou Electric Company, Inc., a Monroe contracting firm, and Sealants International, Inc. of West Chester, Pennsylvania, a gas distribution systems servicing company operating primarily in Europe. In addition, he is a director of MF-FBD Ltda., a Brazilian engineering partnership, all affiliate companies of Ford, Bacon & Davis.

Culpepper is currently serving as

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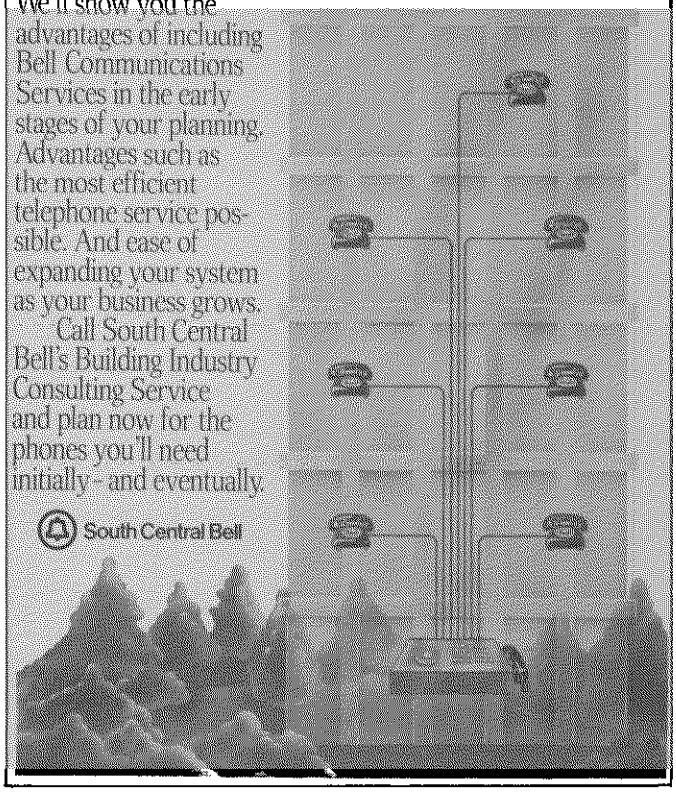

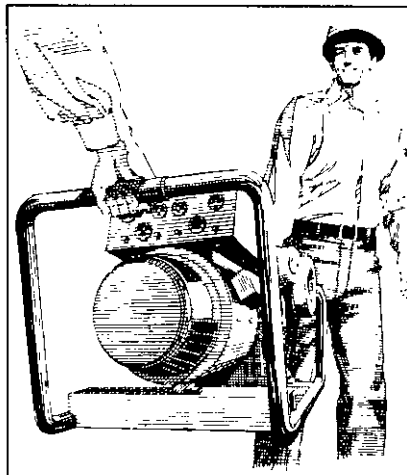

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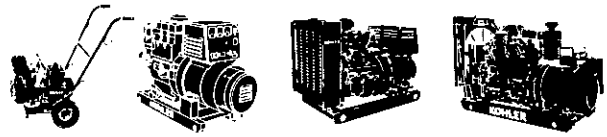

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chairman of the National Constructors Association, a Washington-headquartered organization of the country's largest erectors of industrial facilities.

He is a director of the Southern Gas Association, the Pipeline Contractors Association, and the Ouachita National Bank in Monroe.

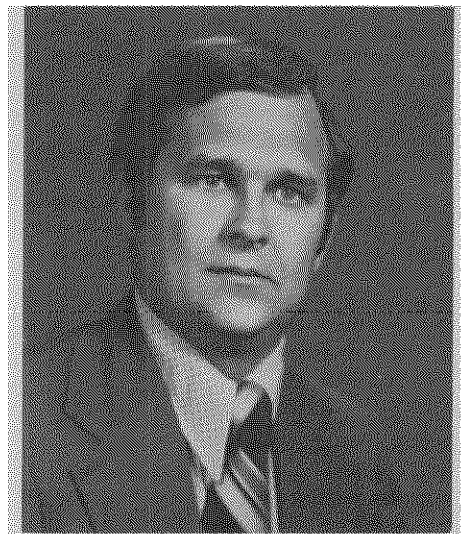
Callegari Becomes Am-Tex Board Head

William A. Callegari has been elected chairman of the board and chief operating officer of Am-Tex Corporation of Alief, Texas, a firm engaged in water district operations, maintenance, construction and management.

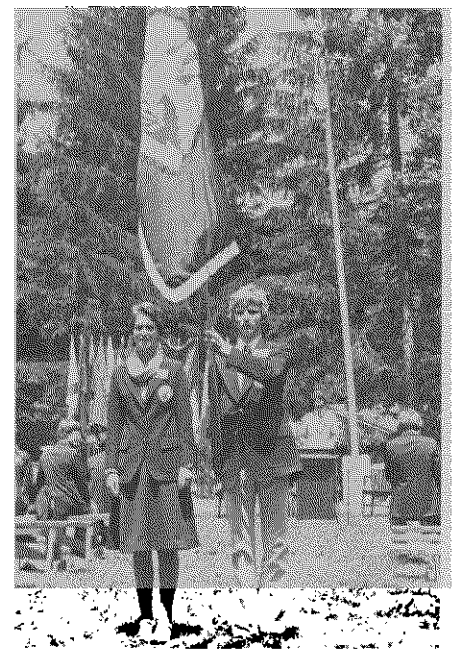
Callegari is a registered professional engineer and brings 14 years of expertise to the firm. He holds a BS degree in engineering from Louisiana State University and an MS degree in engineering from the University of Houston.

He has been associated with an engineering consulting firm for the past four years as vice president of its municipal and land development division. Prior to that he was employed by Shell Pipe Line Corporation and Caterpillar Tractor Company. He has actively worked with water districts in Texas for more than six years and is the author of articles on water district activities published by several trade journals.

He is a founder and past president of the Association of Water Board Directors, which was established to educate and assist directors in carrying out their responsibilities.



W. A. Callegari



Cinda Stipe of Crowley and Jay Blanchard of Houma, Louisiana's delegates to the 1977 National Youth Science Camp, are shown here with the state flag at the camp's opening ceremonies. Founded in 1963 and sponsored by the state of West Virginia, the camp hosts the two top recently graduated high school science students from each state for three weeks of lectures by prominent speakers, as well as rigorous outdoor activities.

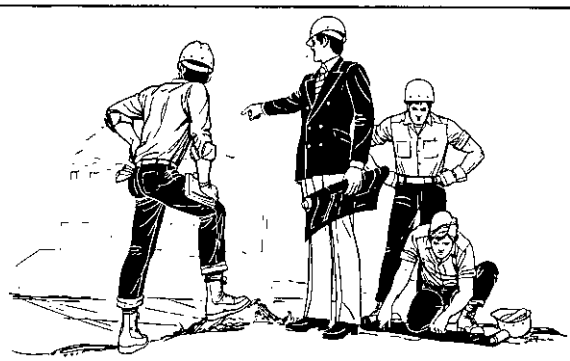
Continued on page 20

Membership Memo

Henry Markel, P.E.

From time to time during the next year, you will be advised of the progress being made by the Louisiana Engineering Society's Membership Committee. Our goal is to achieve membership from every one of the approximately 10,000 engineers practicing in the state today. We want LES to represent you, but you must first become a member of LES.

You have a considerable investment in your career. Why not complete your engineering image by adding professionalism to the tools you already possess? The cost is nominal (cheap when compared to other professional organizations) but the rewards are great. Join the Louisiana Engineering Society and the National Society of Professional Engineers today!



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Continued from page 19

IN MEMORIAM

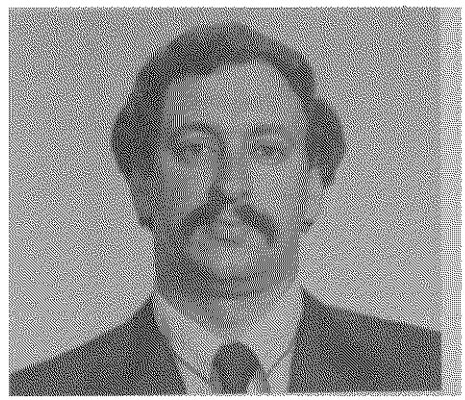
Robert B. Richardson

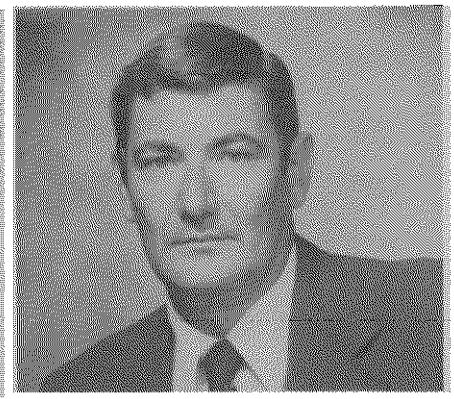
Robert B. Richardson, P.E., a member of the Louisiana Highways Hall of Fame, died at his home in Baton Rouge on April 2.

He served as acting director of the Louisiana Highway Department in 1947 and was named director in 1948. He also served as director from 1956 to 1960. He was first associated with the department in 1921 as a level man and later became a construction engineer, a project engineer and district engineer.

He was born at Downsville and was a graduate of Louisiana Tech. He was a member of the Louisiana Engineering Society, the Louisiana Engineering Society of Civil Engineers and the American Association of Highway Officials.

The Louisiana Engineering Society extends its deepest sympathy to Mrs. Hatfield Richardson, his wife; and Mrs. Bert Williams of Houston, his daughter.





Herb R. Pourciau, Jr., P.E., left, has been elected to be a LES member of the Engineers Selection Board for the term July 1, 1977 through June 30, 1978. He has a BS degree in civil engineering and is vice president of Gibson Welding and Construction and the Thorgerson Corporation, Morgan City. William L. Rose, Jr., right, was elected to the selection board for the term January 1 to December 31, 1978. He has a BS in civil engineering from LSU and is vice president of Williams-McWilliams Company, Inc., in Metairie, in charge of the construction division.

IN MEMORIAM

Richard R. L. Ward

Richard R. L. Ward, P.E., past president of the Lake Charles Chapter and recipient of the 1963 LES Andrew M. Lockett Medal for Civic Service, died on April 10.

He was a native of Longview, Texas, a graduate of the University of Texas and a retired civil engineer. He worked for Texaco in Port Arthur, Texas, until 1943 when he moved to Lake Charles to work at the Cit-Con Lube Plant.

The Louisiana Engineering Society feels a personal and profound sense of loss. "Great souls are portions of eternity," and Richard Ward is now eternal in the remembrance of his fellow man. Our deepest sympathy to his wife, daughter and two brothers.

LES YEAR IN REVIEW
Continued from page 8

source Recovery Facility" by W. S. Parker, P.E.; "Handling Oil Unloading Facilities Under EPA Guidelines" by G. R. Worley, P.E.; "The Eight Surprises . . . Or Has the World Gone to Hell" by John J. McKetta, P.E.; " Photographic Introduction of LES's 1976-77 Board of Direction" by the staff; "Roster of Chief Executives of Engineering Organizations in Louisiana" by the Inter-Society Relations Committee; "Wind Energy Potential in the Coastal Areas of Louisiana" by C. A. Whitehurst, Bill Sarco and W. A. Blanchard; "Louisiana Tech's New Program in Land Surveying" by Joe R. Wilson, P.E.; "Engineering: Where Have All the Great Men Gone?" by the Duke of Edinburgh; "Two Tulane Engineers Assist in Design of Unique Bridge" by Hugh Thompson, P.E., and Robert N. Bruce, P.E.; "Mini-Baja 1977: Making Learning Fun" by John E. Stephens, P.E.; and "The Old River Control Complex" by Major General Francis P. Koisch, P.E.

LES continues to be recognized as a primary source of engineering expertise in the state by federal, state and local agencies. Involvement has included coordination with the Environmental Protection Agency, the General Services Administration, the Louisiana Architects Association, the Consulting Engineers Council of Louisiana, the State of Louisiana, cities, parishes and other entities.

New Registrations

MARCH 30, 1977

Continued from June issue

McAlpine, William Ray
Lighthouse Pt., FL—Civil
McKnight, Oliver Richard
Bossier City, LA—Industrial
McLaren, Fredric Sloan
Harahan, LA—Mechanical
Melson, Arne Ingvald
Shreveport, LA—Mechanical
Meyers, Thomas Gilmore
Alexandria, LA—Industrial
Miller, Sr., Eddie James
Baker, LA—Electrical
Mims, Jr., William Young
Metairie, LA—Mechanical
Mohagen, Roger Evert
St. Paul, MN—Civil
Moore, Jim H.
Kenner, LA—Mechanical
Myers, Robert Elwood
New Orleans, LA—Petroleum
Newman, Fletcher Norris
Baton Rouge, LA—Chemical
Olson, Donald Alan
Metairie, LA—Mechanical
Pearce, Robert Lee
Denton, TX—Civil
Price, Bruce Michael
Kenner, LA—Electrical
Puckett, Robert Eugene
Lafayette, LA—Mechanical
Punch, Stephen Hill
Slidell, LA—Civil
Rasbury, Michael Brooks
Houston, TX—Civil
Rauchle, Glenn David
Memphis, TN—Civil
Ray, Jr., Harry David
Alexandria, LA—Mechanical
Roberson, Bill Lewis
Mobile, AL—Civil
Rowe, Richard Carson
Metairie, LA—Chemical
Ruckstuhl, John Russel
Orlando, FL—Electrical
St. John, James Lee
Metairie, LA—Mechanical
Savoie, Clarence Joseph
Donaldsonville, LA—Civil
Sedlin, Leonard Harvie
Baton Rouge, LA—Chemical
Seymour, John Michael
Vestavia Hills, AL—Civil
Shah, Jayendra Jamnadas
Metairie, LA—Civil
Shelton, Stanley Clyde
Metairie, LA—Civil
Simmons, Robert Lester
Baton Rouge, LA—Chemical
Spicer, Jim Frank
Ft. Smith, AR—Mechanical
Statham, Tom R.
Houston, TX—Petroleum
Summerville, David S.
Watertown, NY—Civil
Stremlau, Thomas Henry
New Orleans, LA—Civil
Thibodeaux, Ticky Luke
St. Martinville, LA—Civil
Timko, Thomas Steven
Parma, OH—Civil
Varga, Joseph Edwin
Birmingham, AL—Civil
White, Oswald Harding
Houston, TX—Mechanical
Wilson, Lawrence Francis
Oregon, OH—Civil
Woodruff, James Allen
Houston, TX—Mechanical
Zimmermann, Leonard Charles
Lakewood, CO—Electrical

Land Surveyors

Burdette, David Timothy
Kaplan, LA
Dumas, David Michael
West Monroe, LA
Harlan, Charles George
Baton Rouge, LA
Young, Billy Harold
Spring, TX
Zeretzke, Frederick John
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States of the Southwestern Region are Arkansas, Colorado, Louisiana, New Mexico, Oklahoma, Texas and Wyoming

PROGRAM

WEDNESDAY, OCTOBER 19

3:00 p.m. - 5:30 p.m. Registration
6:30 p.m. - 8:00 p.m. "Border Buttermilk" Party, Laredo Hilton Inn

THURSDAY, OCTOBER 20

7:00 a.m. - 8:30 a.m. Buffet Breakfast
8:00 a.m. - 9:00 a.m. Registration
9:00 a.m. - 12:00 noon Practice Division Meetings
12:00 noon Buffet Luncheon
1:00 p.m. - 5:00 p.m. Panel Discussion "Continuing Professional Development"
7:00 p.m. - 10:00 p.m. Dinner at The Winery, Neuvo Laredo, Mexico

FRIDAY, OCTOBER 21

7:00 a.m. - 8:30 a.m. Buffet Breakfast
9:00 a.m. - 12:00 noon Seminar: "Energy Dollars and Sense" Speaker: Dr. John McKetta
12:00 noon Buffet Luncheon
Presiding: Waldemar S. Nelson, P.E.
Introductions: National Officers, Host Chapter
1:00 p.m. - 5:00 p.m. NSPE Programs and Problems Speaker: Delbert Schmand, P.E. "Professional School of Engineering," progress report

LADIES' PROGRAM

WEDNESDAY, OCTOBER 19

3:00 p.m. - 5:30 p.m. Registration
6:30 p.m. - 8:00 p.m. "Border Buttermilk" Party

THURSDAY, OCTOBER 20

8:00 a.m. - 9:00 a.m. Registration
9:00 a.m. - 10:00 a.m. "Bienvedos" (Hospitality Room, Coffee and Juices)
10:00 a.m. - 3:00 p.m. Bus will depart in front of the motor lobby at 10 a.m. for a tour of Nuevo Laredo, Mexico, luncheon at La Hacienda, sightseeing and shopping.
7:00 p.m. - 10:00 p.m. Dinner at The Winery, Nuevo Laredo

FRIDAY, OCTOBER 21

9:00 a.m. - 10:00 a.m. "Bienvenidos"
10:30 a.m. - 2:30 p.m. Tequila Sunshine Brunch at Officers Club, and Laredo Texas Mall shopping tour.

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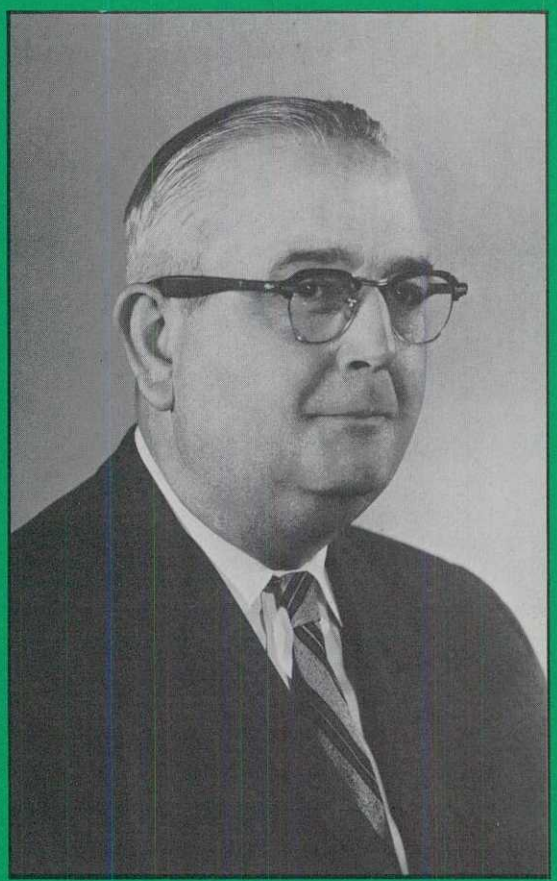
LOUISIANA ENGINEER
October, 1977



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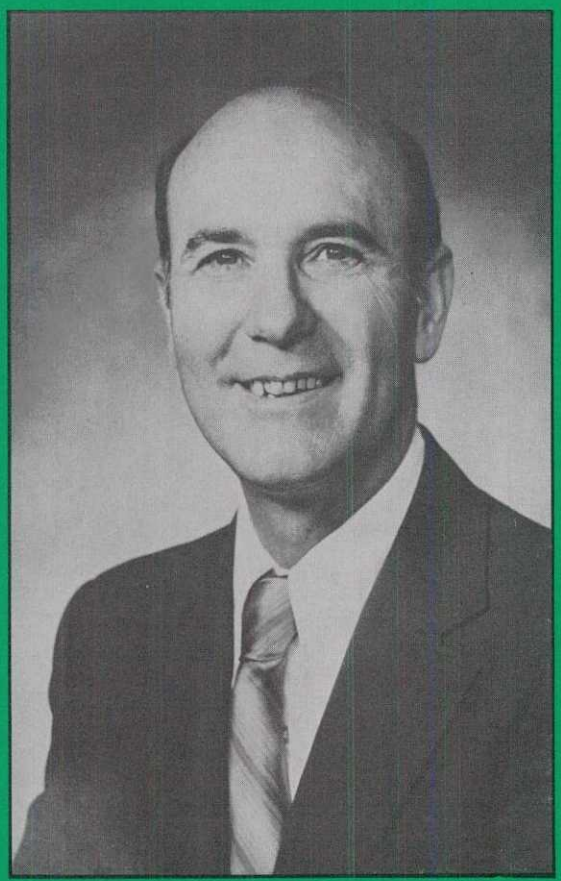

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National Council of Engineering Examiners Honors 2 Members of Louisiana State Board of Registration . . . See Page 4.

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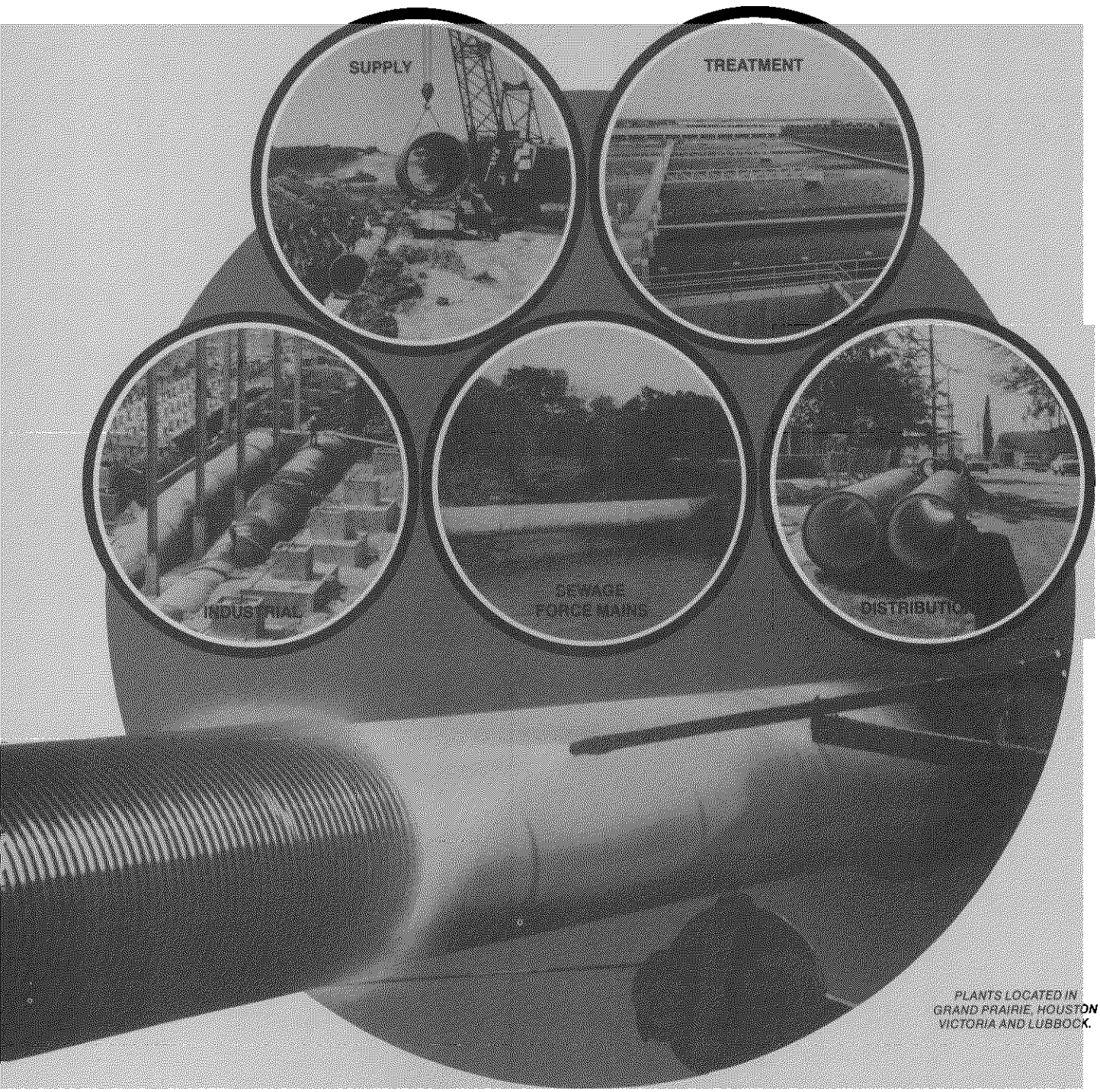

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LES AWARDS PROGRAM

Recognition of fellow engineers has always been an important program of the Louisiana Engineering Society. It is the Society's feeling that honors and awards should be given deserving members so that public recognition of their attainments will inspire others.

Malcolm L. Hurstell, P.E., Chairman
Honors and Awards Committee

The Society has six basic awards:

- The Andrew M. Lockett Medal for Civic Activities
- The A. B. Paterson Medal for an Engineer in Management
- The Charles M. Kerr Public Relations Award
- The James M. Todd Technological Accomplishment Medal
- The F. Hugh Coughlin Young Engineer Award
- The Leo M. Odom Professional Service Award

Nominations for recipients of the six basic awards may be made by:

- Any elected officer of the State Society or one of the Chapters.
- By the Board of Direction of the Society.
- By the Executive Committee or equivalent body of the Chapter.
- By three or more members of the Society.
- By the individual Chapter Honors & Awards Committee.

Nominations may be submitted to a member of the Honors & Awards Committee, or to the Honors & Awards Committee in care of the State Office, no later than December 1, 1977. Nominations for the awards must be submitted on the appropriate form. These forms were mailed to each Chapter August 12. The nomination forms should be supported by:

1. A full statement of the formal academic training, experience, progress, and notable technical or engineering contributions made by the nominee.
2. A statement of the basic reasons for submitting the nomination, and for believing that the nominee is eligible for the honor.
3. Such other information and references as may be of assistance to the Board of Direction in considering and acting upon the case.
4. Documentation carrying the present title and company connection of the nominee, setting forth clearly and concisely why he should be named for the award recommended.
5. A photograph of the nominee.

It is time for the Chapters to screen and select worthy candidates. Nominations for the awards must be in the hands of the Executive Secretary by December 1, 1977. The Honors & Awards Committee will meet December 9, 1977 to select award winners.

Awards will be presented during the Society's spring meeting April 14, 1978 at the Sheraton Hotel, Baton Rouge.

October, 1977

LOUISIANA ENGINEER

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Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318.



About the Cover

Two members of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors received high honors in August at the annual meeting of the National Council of Engineering Examiners. Dr. Jesse Coates, P.E., who is retiring from the Board this year after 26 years of service, was awarded special commendation for "untiring efforts toward constant improvements in examinations." Andrew M. Moore, P.E., who is serving his first term on the Board, received a Distinguished Service Certificate "as a staunch advocate of engineering registration."

In This Issue

LES Awards Program 3
Presidential Privilege 5
Pyrolysis of Municipal Solid Waste in Louisiana 7
NSPE to Vote on Dues Ceiling 12
You Need NSPE 12
Potpourri 14
Vliet's Views 16
EngiNEWS 17

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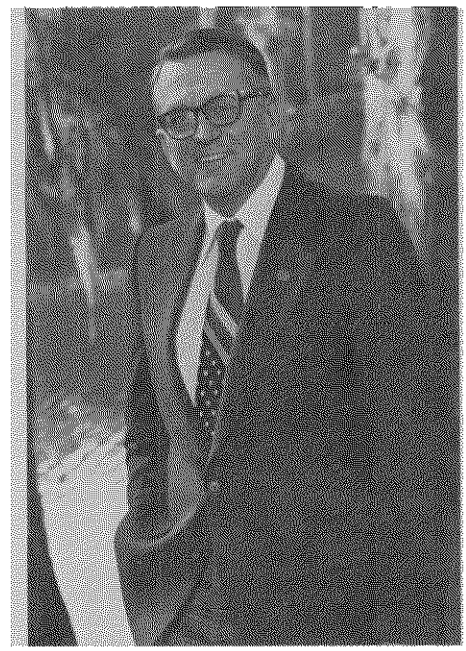
Presidential Privilege

During our Chapter Planning Conference on September 16 and 17 in Alexandria, I was asked by one of our young engineers to publish an article on membership which I had produced some five and a half years ago. He was very impressed with the Bill Gager NSPE membership workshop he had just attended and thought this article would be very helpful to the young engineers and to other engineers who are not members of the Louisiana Engineering Society.

When I reviewed the article which I wrote in 1972 for the June issue of the *LOUISIANA ENGINEER*, I found it still appropriate. The figures have changed, but the needs and purposes of the Society are still the same. I have just returned from a week in Bangkok, Thailand, a trip which really accentuated all of the benefits we have derived through our profession. My thoughts from 1972 have not changed. I am still very proud of my profession, am thankful for all it has done for me, and will continue to give it my full support. Please read the following 1972 article and make your own personal evaluation.



E. E. Moncla, P.E.
President, LES

What Does the Society Do for Me?

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 their 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 making awards to 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 interest himself actively 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.

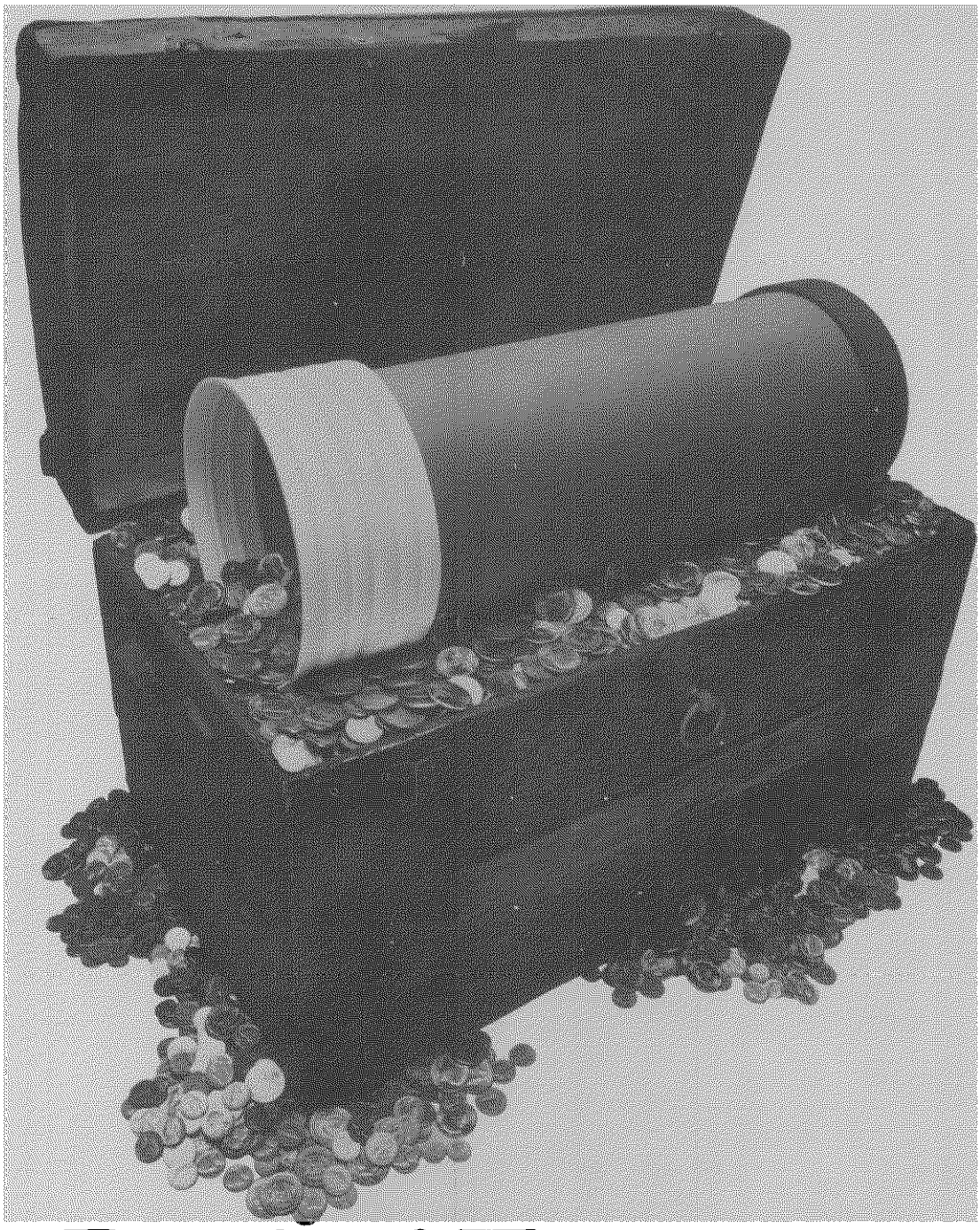
To better serve all of the members, our state is divided into chapter areas with chapter officers elected by local members. These chapters are as follows: Alexandria, Baton Rouge, Bayou (Morgan City area), Lafayette, Lake Charles, Monroe, New Orleans and Shreveport.

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 percent; lawyers, 44 percent; dentists, 95 percent; accountants, 70 percent; and engineers, only 22 percent. 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 membership 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?



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Pyrolysis of Municipal Solid Waste In Louisiana

Cheng-Shen Fang

Dr. Cheng-Shen Fang is associate professor of chemical engineering, University of Southwestern Louisiana, Lafayette.

According to a recent survey, in 1974 the population in Louisiana was 3,763,668, and 63 percent of this population was in the urban areas.[1] The population growth and concentration in urban areas create many problems; among them is the disposal of tons of municipal solid waste (MSW) each day. In urban areas, each person generates 5.72 pounds of MSW per day, according to a national survey.[2] The rate in Greater New Orleans is 5.81 pounds per person per day.[3] In Lafayette, it is 5.1 or 5.34 pounds per person per day.[4,5]

The composition of MSW varies significantly with respect to season and location, reflecting the climate, life style and economic activity.[6] Examples of MSW analyses are shown in Table 1. The data in the table show that the major part of MSW is organic materials, which include 42 percent paper, 13.6 percent food wastes, 6.7 percent grass, leaves and woods, 3.0 percent textiles and 1.7 percent plastics.

Based on the ultimate analysis of this mixture of organic materials, an empirical chemical formula is suggested[7] to represent the dry MSW, after inorganic materials (metals, glass and stones) are removed. The formula is:

$$C_{30}H_{48}O_{19}N_{0.5}S_{0.05}$$

The average heating value of MSW on the as-received basis is 4,600 British thermal units (Btu) per pound, assuming 21 percent moisture.[8] After glass and metals are removed, the heating value increases to 4,827 Btu per pound,[9] which is about 30 percent of the heating value of bituminous coal. Based on the as-received basis, the heating values of MSW, wood barks and bagasse are about the same.

Resources Recovery from MSW

In recent years more and more people have begun to realize that there are rich resources hidden in MSW, which has been simply thrown away via landfill for decades. Spurred by shortage of fuel, worsening municipal budgets and overflowing trash dumps, about 30 cities across the nation are engaging in various degrees of resource-recovery operations. About 100 more such facilities are expected to be in operation in the near future.[10] Waste Management, Inc. of Oak Brook, Illinois, is building a plant to recover materials from MSW in New Orleans. When the plant is in operation, Waste Management will charge the city $10.95 for each ton of MSW received from the city.

There is 8.2 percent ferrous scrap in MSW, which can be recovered by a magnetic separator. The ferrous scrap can be sold at $20 per ton or higher, depending upon the amount and quality of impurities in the scrap. There is seven-tenths percent aluminum and a small amount of copper in MSW. The market values of aluminum and copper scraps are, respectively, $20 per ton and $200 per ton. The glass also can be recovered for sale. Its market value varies greatly, ranging from less than $2 per

Continued on page 8

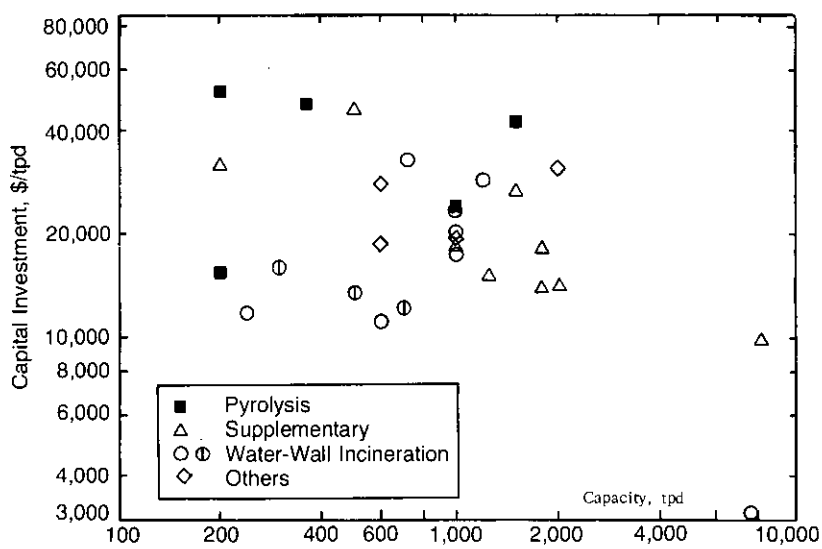

Figure 1. Capital Investments of Resource-Recovery Projects[11]

Table 1. Typical Municipal Solid Waste Analysis

Component	New Orleans[3] As-received, %	New Orleans[3] Dry, %	Average of Nine Studies[2] As-received, %	Average of Nine Studies[2] Dry, %	EPA[6] As-generated, %
Paper	39.4	42.0	48.0	48.6	32.9
Plastics, Leather, Rubber	1.5	1.7	2.0	2.8	6.4
Garbage (Food Wastes	18.9	13.6	16.0	11.1	16.6
Grass, Leaves, Wood	9.2	6.7	11.0	9.0	22.1
Textiles, Rugs	2.6	3.0	1.0	0.7	1.4
Glass, Ceramics, Stones, Bricks	16.2	19.3	14.0	16.7	11.3
Metals	12.2	13.7	8.0	11.1	9.3
Total	100.0	100.0	100.0	100.0	100.0

[2, 3, 6] See references at end of article.

Continued from page 7

ton to more than $6 per ton, depending on its purity.

The organic portion of MSW is rich in carbon (31.7 percent) and hydrogen (3.8 percent). Therefore it is a potential source of energy. Dozens of cities are experimenting with the energy-recovery operation, primarily through the direct combustion of shredded MSW.

In addition to direct combustion, there are several other energy-recovery processes at various stages of development. In summary, the energy-recovery processes are as follows:

Direct-Combustion:

1. Heat-recovery incineration, which burns MSW in a water tube-wall furnace to produce steam (in commercial operation);
2. Supplemental fuel process, which burns a mixture of coal and MSW in a coal-fired boiler (in commercial operation);

Gasification:

3. Pyrolysis, which produces a low-Btu gas by thermal decomposition of MSW (early development in full-scale operation);
4. Fermentation, which produces a high-Btu gas by a biological reaction of MSW (initial development);
5. Hydrogasification, which produces a high-Btu gas by the hydrogenation of MSW (initial development);
6. Combined pyrolysis-hydrogenation process (a successful pilot-plant operation was recently announced).

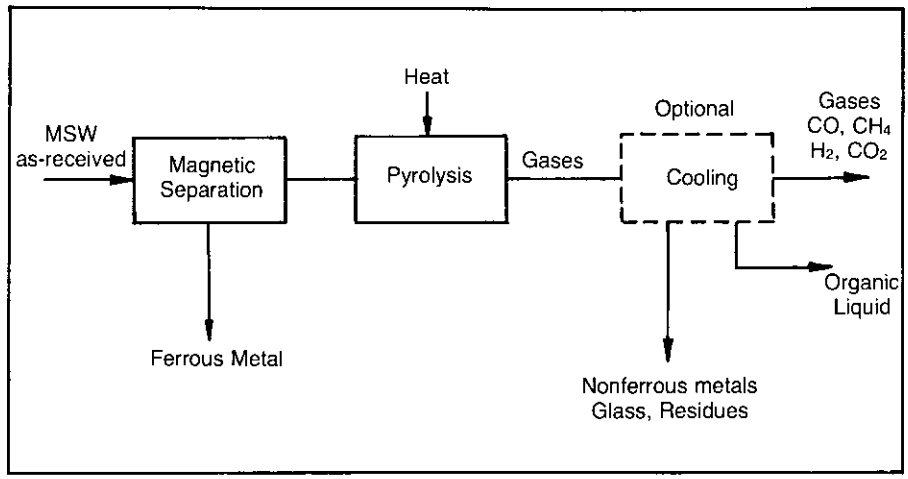

Figure 2. Basic Steps of Pyrolysis of MSW

The capital investments of these processes are high. Figure 1 shows examples of capital investments of these energy-recovery processes.

Potential of Pyrolysis in Louisiana

Disposal of MSW has recently become a pressing problem in many municipalities in Louisiana, such as New Orleans, Monroe, Lafayette, New Iberia and Abbeville. At the same time, due to extensive exporting of natural gas to other states, industries in Louisiana are facing a short supply of natural gas. Furthermore, since all boilers used in the Louisiana electric generation industry are gas-fired boilers, the pyrolysis

Continued on page 10

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PYROLYSIS OF WASTE
Continued from page 8

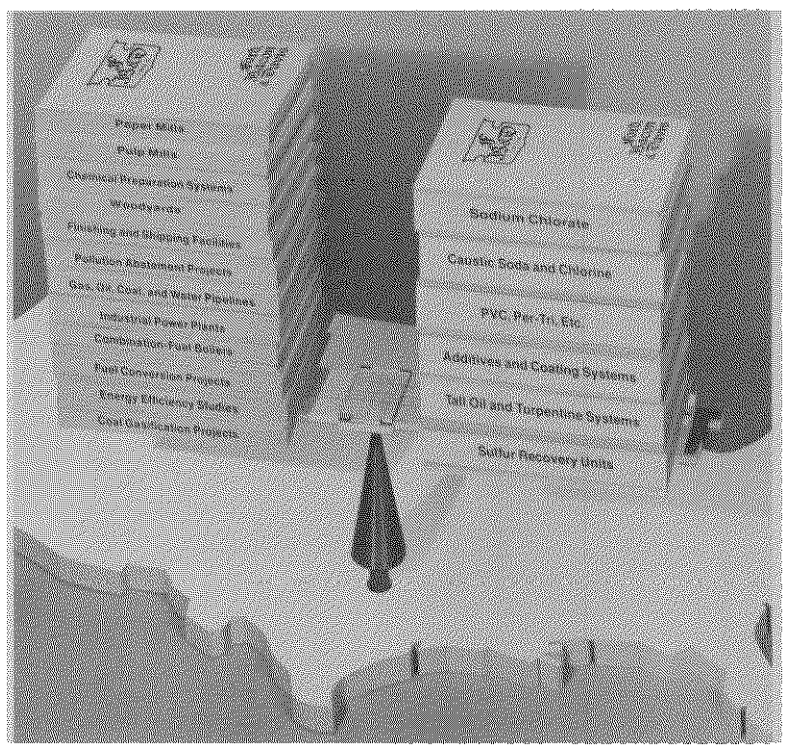
of MSW is of particular interest to the state.

Pyrolysis of MSW produces a gaseous fuel which can be used in gas-fired boilers. The heating value of the pyrolytic gaseous fuel is in the range from 120 to 300 Btu SCF, primarily depending on the method of heat supply to the reactor. The basic steps of pyrolysis are shown in Figure 2.

If all energy in MSW in Louisiana urban areas is recovered at 61 percent thermal efficiency, 12.9×10^{12} Btu of energy can be produced from MSW each year. It represents 2.7 percent of the energy consumption in Louisiana's utility industry in 1974.

A typical 1,000-ton-per-day (tpd) pyrolysis plant costs approximately $24 million, including costs of air pollution control equipment. The amortization of such an investment is $7.97 per ton of MSW processed at a six percent interest rate over 15 years. The operating cost is about $9.48 per ton. Thus, the total cost of MSW disposal is $15.96 per ton. The revenues from the sales of ferrous scrap, glassy aggregate and energy (gaseous fuel or steam) are, respectively, $1.22 per ton, 34 cents per ton and $14.40 per ton.

After subtracting the revenues from the total cost, the net disposal cost is $1.49 per ton, which is lower than the disposal cost by landfill. The disposal cost by landfill in Louisiana varies from $2.05 to $4.13 per ton, depending upon the landfill site and the extent of pollution control. Due to the high underground water table in the Gulf Coast areas, recently there has been speculation on possible water pollution by landfill of MSW.



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Present Status

In the past several years, research and development in pyrolysis of MSW has been very active. The Baltimore Pyrolysis Plant, which was constructed by Monsanto Company using Monsanto's "Landgard" pyrolysis system, has been in test-runs since 1975.[6, 11, 12] The capacity and cost of the plant are, respectively, 1,000 tpd and $20 million. Union Carbide Corporation has been operating a 200-tpd demonstration plant in Charleston, West Virginia, since 1974. The process of this pyrolysis plant is called "Purox System." Union Carbide is seeking the market for the process.[11,14] Both "Landgard" and "Purox" systems produce a gaseous fuel.

Garrett Research and Development Company constructed a pyrolysis plant in San Diego County, California, using a process called "Flash Pyrolysis" which produces a liquid fuel. The plant started its test runs in the fall of 1976.[6, 11, 13] There are several other less-publicized pyrolysis projects, such ad Devco's project in Brooklyn, New York, Rust Engineering's project in Minneapolis and Carborundum's "Torrax System."[8, 11, 15]

Unit operations involved in the full-scale pyrolysis of MSW are:

1. Shredding.
2. Solid-solid separation, including screening, magnetic separation, air classification and flotation.
3. Solid-gas separation, including operations of the cyclone and electrostatic precipitator.
4. Solid-liquid separation, mainly filtration.
5. Combustion and gas-solid heat transfer.
6. Gas absorption.
7. Pyrolysis reaction.

None of these operations is an en-

tirely new technology. Many of them are well-established unit operations in the mining, chemical process and refining industries.

However, there is not a single full-scale pyrolysis process which is in continuous, satisfactory operation yet. Without at least 10 months continuous operation each year, the economic and environmental advantages of the pyrolysis process simply cannot be achieved. In short, the technology of full-scale pyrolysis is still in its early stage of development. Two or three more years may be needed to work on the "debugging" of the process. It is a frustrating situation that the results from pilot-plant operation are so promising and encouraging, yet the development in full-scale operation is so far behind.

An economically and environmentally acceptable method to dispose of 2.3 million tons of MSW each year in Louisiana's urban areas is urgently needed. Many municipalities in the state are particularly interested in the method, which can recover resources from MSW to offset the high cost of disposal operations. Unfortunately, there is not a proven process which can be applied readily to solve the problem.

After 1980, there will be a significant number of coal-fired boilers in Louisiana (11.2 to 14.9 percent of electricity in the state will be generated from coal-fired boilers). It will be possible to burn the mixture of MSW and coal in these boilers (supplemental fuel process), a fairly well-established process that is, unfortunately, more than five years down the road in the future.

Because of extensive use of gas-fired boilers in the state, pyrolysis is an attractive option. But any municipality which plans to adopt the process must prepare to absorb the high cost of development and debugging, since the technology is not mature yet.

Louisiana is at the crossroads: Should it continue the costly landfill disposal? Should it wait five or 10 years for coal-fired boilers? Or should it commit a significant amount of capital to develop the attractive pyrolysis process?

Acknowledgement

The author wishes to express his gratitude to the Division of Natural Resources and Energy, Department of Conservation, State of Louisiana for its financial support. This article is condensed from a report to the division.

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Continued on page 16

Vanishing Louisiana

Norman C. Forachi & Sue Eakin

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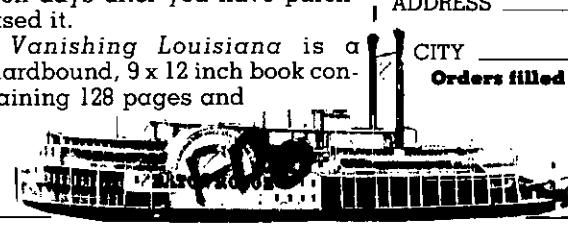

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NSPE Members to Vote On Dues Ceiling

Delbert A. Schmand, P.E.
President, NSPE

A constitutional amendment that would raise the national dues ceiling will go before the membership of the National Society of Professional Engineers this fall in a special ballot, and as elected leader of NSPE it is my job to see that it goes before an informed electorate.

Informed is a difficult state to achieve when the subject is dues because the mere thought of an increase creates obstacles that are difficult to see beyond; but foresight is what this amendment is all about. Passage means that we will be able to plan the society's development well in the 1980s. I believe there is an excellent case in support of this amendment and, as fellow professionals, I'm asking that you look into it and hear the case.

First, let me clarify the amendment. There is a difference between a raise in the dues ceiling and an actual raise in the dues. Under the constitution, national dues are determined by the elected Board of Directors with the provision that they do not exceed a constitutionally set ceiling. To exceed the ceiling rate, the members must, by two-thirds vote, establish a new ceiling—the wisdom being that the Board is in a better position to govern the day-to-day financing, including dues setting, but the members have the right to keep a lid on things.

National dues are presently set at the ceiling rate. The proposed amendment would raise the ceiling by $10 with provisions that there be no actual dues increase before 1979 and that no increase exceed $5 in any one year. In effect, the membership is giving the Board the authority to raise dues with restrictions as to when and by how much. The provisions make it clear that this amendment is aimed at long-term planning.

I believe there is excellent reason to support this case based on the demanding opportunities ahead of us and the need for sound financial planning. Let me address each briefly.

Everywhere we look the engineering community is being challenged, and it is our job to turn these challenges into opportunities. Energy is our nation's most pressing problem and one that is turning national attention toward engineers. NSPE is responding with programs that harness the tremendous strength of our membership. Registration is undergoing serious changes as a result of sunset laws, educational requirements, and consumers on the boards. The society is shaping inevitable changes so that quality and competence are assured.

Employment practices need to be influenced by the *Guidelines to Professional Employment* and the society is developing new ways to gain employer recognition for this nationwide program. We are working vigorously on these and many other opportunities, but our ability to maintain these efforts into the future depends in part on our ability to finance them. Today our financial house is in order but the demands on our profession are growing and unless revenues match this growth our efforts will dwindle.

Financial planning is hindered by an adversary with which we are all familiar. Since 1972 we have experienced a 37-percent gouge in our buying power and can probably expect to lose another six percent per year into the future. Although we all must learn to cope with inflation, a dues ceiling means that we are a fixed-income organization.

We are proud of our moves to economize. In the last three years we have held our overhead stable in the face of spiraling expenses and we have increased our programming with no increase in staff size. Nevertheless, the reality of today's economy is that we cannot go into 1980 with our 1976 budget. By raising the dues ceiling with restrictions on when dues will increase and by how much, we are exercising prudent foresight.

We have deliberated long over this amendment. We believe this provides for the society's growth, prevents deficits, and gives the membership a clear indication of what they can expect their dues to be well into the future. We hope you concur and approve the amendment in the fall balloting.

You Need NSPE! NSPE Needs You!

James Janssen, P.E.

Last year's LES president, Jim Meyer, in one issue of the *LOUISIANA ENGINEER*, recounted the anecdote of the non-participating, freeloading engineer who, on his deathbed, asked that engineering society members serve as his pallbearers. When asked why, he answered that those activists had carried him all during his career and might just as well carry him the rest of the way.

Current President Buddy Moncla reiterates an engineer's obligation to participate in professional engineering matters. There is no better way to do this than to belong to the Louisiana Engineering Society *and* the National Society of Professional Engineers. NSPE does not compete with local associations: its members are also members of their respective state societies.

NSPE does what its name indicates—it gets involved in professional engineering matters on the national level. It works closely with other national engineering groups but leaves matters of a technical nature to the technical societies. It does deal with such matters as ethics, registration, recognition, compensation, career guidance, continuing education and professional development, legislation, and similar subjects. Thus, for five years, NSPE has been defending the professional's ethical standards against an attack that would allow price bidding for professional engineering services.

To effect its aims more readily, NSPE works through its officers, through its Board of Directors with members from all states and territories, through its geographical regions, and through its practice divisions. There are five of the latter—Industry, Private Practice, Construction, Government and Education. Louisiana has local sections of every one of these divisions, and several Louisiana engineers are (or have been) active on the national scene in each of them. All LES and NSPE members join the division in which their current activities most aptly place them.

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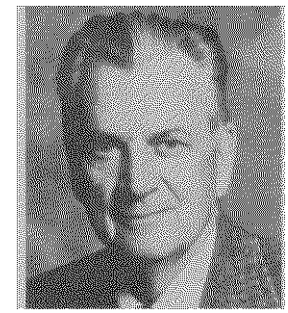

Competitive Bidding Decision

In the lawsuit **Carl Heck Engineers vs. LaFourche Water District No. 1**, the First Circuit Court of Appeals ruled in May it was not a violation of Louisiana law for the LaFourche Parish Water District to let engineering services contracts out without competitive bidding. The appellant submitted a writ of review to the Louisiana Supreme Court.

The Louisiana Supreme Court on September 16 upheld the First Circuit Court of Appeals' judgment by unanimous decision. All seven justices signed without a single dissent.

The action by LES, CEC/L, ASCE Louisiana Section and the NSPE Legal Review Committee has been rewarded by what we believe is a landmark decision for Louisiana and the engineering profession.

LES Training Session, Alexandria

The 21st Chapter Officers' Training and State Planning Conference held September 15-17 at the Ramada Inn in Alexandria was attended by 87 engineers and 36 ladies.

Thirty-seven engineers attended the membership recruiting and retention workshop on Thursday conducted by **Bill Gager**, NSPE. The five-hour workshop was well received and the exchange of information on membership motivation, development and retention will do much to aid the chapters and LES in membership growth.

Sixty-four engineers and guests attended the Thursday evening early bird cocktails and roast beef dinner at England Air Force Base Officers Club. **Mrs. Judy Raggio**, on behalf of the Alexandria Chapter, presented a number of door prizes.

The Friday morning session was conducted by **Carl Thomas, P.E.**, president-elect. **E. E. "Buddy" Moncla, P.E.**, president, was unable to be with the group until Friday evening due to business conflicts. Thomas introduced various officers and leaders who reported on all aspects of LES operations and procedures.

Practice division and committee meetings were held Friday afternoon. Representatives from each chapter area attended these meetings and formulated procedures for the coming year.

Seventy-nine engineers attended the buffet luncheon Friday and heard **Bobby Freeman**, legislator from Plaquemine and candidate for lieutenant governor, give an interesting insight into the 1977 legislative session.

One-hundred-thirty engineers and guests enjoyed a delicious shrimp boil at Harold Miles Park Friday evening. Our sincere thanks to **Louisiana Industries, Inc.**, for hosting the pre-dinner refreshments. Again, **Judy Raggio** presented door prizes on behalf of the Alexandria Chapter. **Francis Roy, P.E.**, entertained the crowd with Cajun stories, one about a Mexican's unique way of telling the time and another concerning the Texan who reversed a blow pipe that had been used by Louisiana Cajuns for sanitary reasons.

The ladies' tour along the bayou and coffee at Loyd's Hall were enjoyed by 39 participants.

Louisiana Hall of Honor

The selection committee of the Louisiana Hall of Honor has chosen **Alvin Fromherz, P.E.**, and **Hale Boggs** as 1977 inductees.

Congressman Boggs served in the United State Congress from 1941 until his untimely death in 1972. He was author of the 1956 Highway Act which established the Highway Trust Fund we have today.

Fromherz was among the first to use soil boring in the New Orleans area and to pull wooden pilings on docks to check their condition. He pioneered many other engineering projects.

Membership in the Hall of Honor is awarded annually to individuals who have made extraordinary contributions to Louisiana's highway and streets program in the area of safety, engineering, design, invention or legislation. The Hall of Honor program is sponsored by the Louisiana Good Roads Association, in conjunction with the Louisiana Department

of Transportation, Associated General Contractors, LES, Consulting Engineers Council of Louisiana, Louisiana Municipal Association and the Louisiana Highway Safety Commission.

An induction ceremony was held September 28 at the State Highway Department Building in Baton Rouge.

The 1977 selectees joined **Huey P. Long, T. L. James, Sr., Norman E. Lant** and **Harry Henderlite**, all inducted in 1974; **Robert B. Richardson** and **Captain Neville Levy**, inducted in 1975; and **John D. Blagg** and **Philip Angier**, inducted last year.

Outstanding Engineer of Texas

Dr. John J. McKetta, P.E., professor of chemical engineering at the University of Texas in Austin, has been selected by the Texas Society of Professional Engineers as the 1977 Outstanding Engineer of Texas. Dr. McKetta joined the UT faculty in 1946.

Two articles by Dr. McKetta have been published recently in the *LOUISIANA ENGINEER*: "The Eight Surprises . . . Or Has the World Gone to Hell" (October 1976) and "The Energy Crisis Revisited" (August 1977). Dr. McKetta will speak on "Energy—Dollars and Sense" at the NSPE Southwestern Regional meeting in Laredo, Texas on October 21.

LES Member Consulting on Offshore Field in South China Sea

Charles E. Prewitt, P.E., of Denson Engineers, Inc., New Orleans, has recently returned from a working assignment for Exxon Production Malaysia, Inc., in Kuala Lumpur, Malaysia, and Tokyo, Japan. In conjunction with S.H. Landes Engineers, Inc. of Houston, Prewitt was assisting Exxon in the bid analysis for construction of three production facilities in a newly developed field in the South China Sea.

Prewitt is a member of LES, ASME, NSPE and PEPP. He is a graduate of the University of Kentucky and has attended the graduate engineering program at Tulane University.



Ebasco Services Names E.A. Kollitides to Engineering Post

Earnest A. Kollitides, P.E., has been promoted to chief electrical engineer with Ebasco Services, Inc., New York. He has over 18 years experience in power plant engineering with Consolidated Edison Company of New York and with Ebasco.

Kollitides holds three degrees: a BS in electrical engineering and a BA in mathematics and physics from New York University, and an MS in electrical engineering from Polytechnic Institute of Brooklyn. He is a senior member of IEEE and a member of NCEE. He is registered in 10 states, including Louisiana.

Ebasco, a firm of engineers, constructors and consultants, has provided professional services to the utility industry for more than 70 years.

Fred C. Culpepper Featured in National Magazine

Fred C. Culpepper, P.E., president of Ford, Bacon & Davis, Inc. and 1974-75 president of the Louisiana Engineering Society, was featured in the September 1 issue of *Engineering News-Record*. His photograph appeared on the cover and an article, "NCA Chief Says Labor Problems Are Tied to Politics," appeared on page 20. Culpepper is chairman of the National Constructors Association (NCA).

He is a licensed professional engineer in 12 states, a fellow in ASCE, a member of LES and NSPE, a board member of the Pipeline Contractors Association, and chairman of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors.

Schmand Accepts Lake Charles Invitation

Del Schmand, P.E., president of the National Society of Professional Engineers, has accepted the Lake Charles Chapter's request to speak at its Engineers Week banquet next February 23.

This is an outstanding accomplishment for the Lake Charles Chapter and Louisiana. Most state engineering societies want the president to visit their area during Engineers Week and Lake Charles's "early bird" work produced good results.

Continued on page 19

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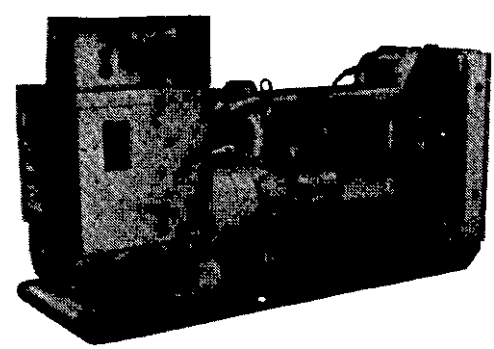

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Vliet's Views

Daniel H. Vliet
Executive Secretary
Louisiana State Board of Registration for Professional Engineers and Land Surveyors



There will be no increase in license renewal fees next year. During the last fiscal year the income of the State Board of Registration exceeded its expenses. The primary reason for this was a reduction of expenses because no rosters were published. (In 1976 the Registration Law was amended to require the publication of rosters every other year, instead of every year.)

Expenses for printing and postage were $22,246 less for the fiscal year ending June 30, 1977 compared to the one before, even though the costs of postage and printing for most items had increased by a significant amount.

Before the 1976 amendment to the Registration Law, the Board was obligated to send the *Yearbook* to all registered professional engineers and land surveyors, whether or not they wanted a copy. The 1978 *Yearbook*, which will contain rosters of everyone who has renewed his registration or certification before December 31 this year, will be sent only *on request*.

For convenience in ordering, a box has been printed on the requests for renewal forms to allow professional engineers and land surveyors to order the 1978 *Yearbook*. This procedure should provide a saving during the years when rosters must be published.

The Registration Law states that "A roster showing the names and places of business of all registered professional engineers, the branch of engineering in which professional engineers are registered, and all registered land surveyors shall be published by the secretary of the board each even-numbered year."

We have been publishing business addresses, which in some cases do not identify the "places of business." To comply with the provision of the law the board obviously needs help. A letter explaining this matter will be enclosed with each renewal notice. Persons registered and certified by the board will be given the opportunity to modify, if necessary, their business address so that it indicates their place of business, as well as its address. Your assistance and cooperation will be greatly appreciated.

PYROLYSIS OF WASTES
Continued from page 11

Resources and Energy, Department of Conservation, Louisiana (1976).
[12] Sussman, D.B., "The Energy Recovery Solid Waste Facility in Baltimore, Maryland," interim report, EPA (1974).
[13] Levy, S.J., "San Diego County Demonstrates (Use) of Pyrolysis Solid Waste," Report SW-80d2, EPA (1975).
[14] Marple, D.D., "Energy Recovery from Mixed Municipal Refuse—The Purox System," The Second Conference on Energy and Environment, AIChE and Air Pollution Control Assoc., College Corner, Ohio, Nov. 13-15, 1974.
[15] *Chem. Eng.*, May 26, 1975.

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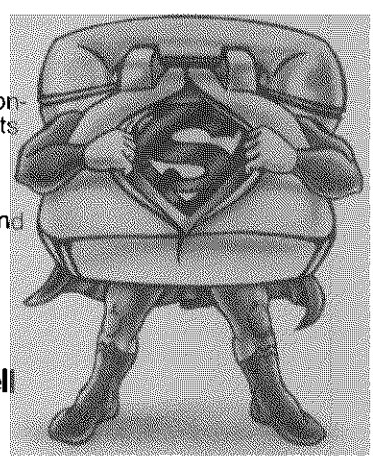

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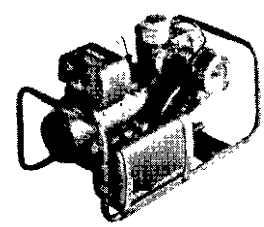

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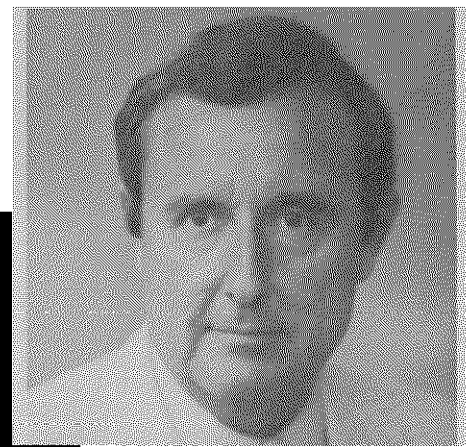
EngiNEWS

Governor Appoints Dawson to Board

William J. Dawson, P.E., was appointed by Governor Edwin Edwards in July to the Engineers Selection Board for the term July 1 to December 31, 1977. The Engineers Selection Board is composed of seven members: two elected by LES, two elected by the Consulting Engineers Council of Louisiana, two appointed by the governor and one from the user agency. For the first time since the inception of the Board all member slots are filled.



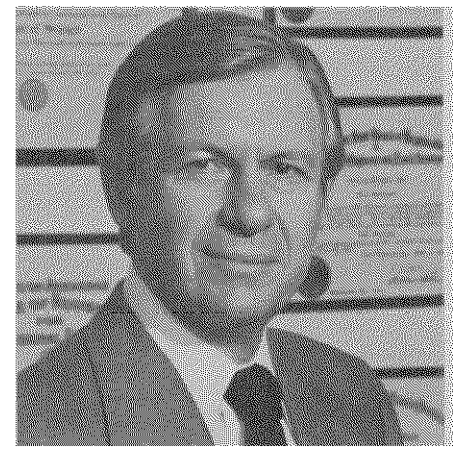
William J. Dawson, P.E.

Dawson was born in Independence County, Arkansas. He was graduated from Fair Park High School in Shreveport. In 1942 he entered the U.S. Marine Corps and served four years. Upon his return from the service he attended LSU and graduated with a BS in civil engineering.

Dawson has been in the private practice of consulting engineering since 1954. He is the owner-president of Dawson Engineers, Inc., located in Baton Rouge.

Demopulos Joins Registration Board

Chris Demopulos, P.E., principal in the consulting engineering firm of Demopulos & Ferguson, Inc., with offices in Shreveport and Houston, has been appointed a member of the State Board of Registration for Professional Engineers and Land Surveyors.

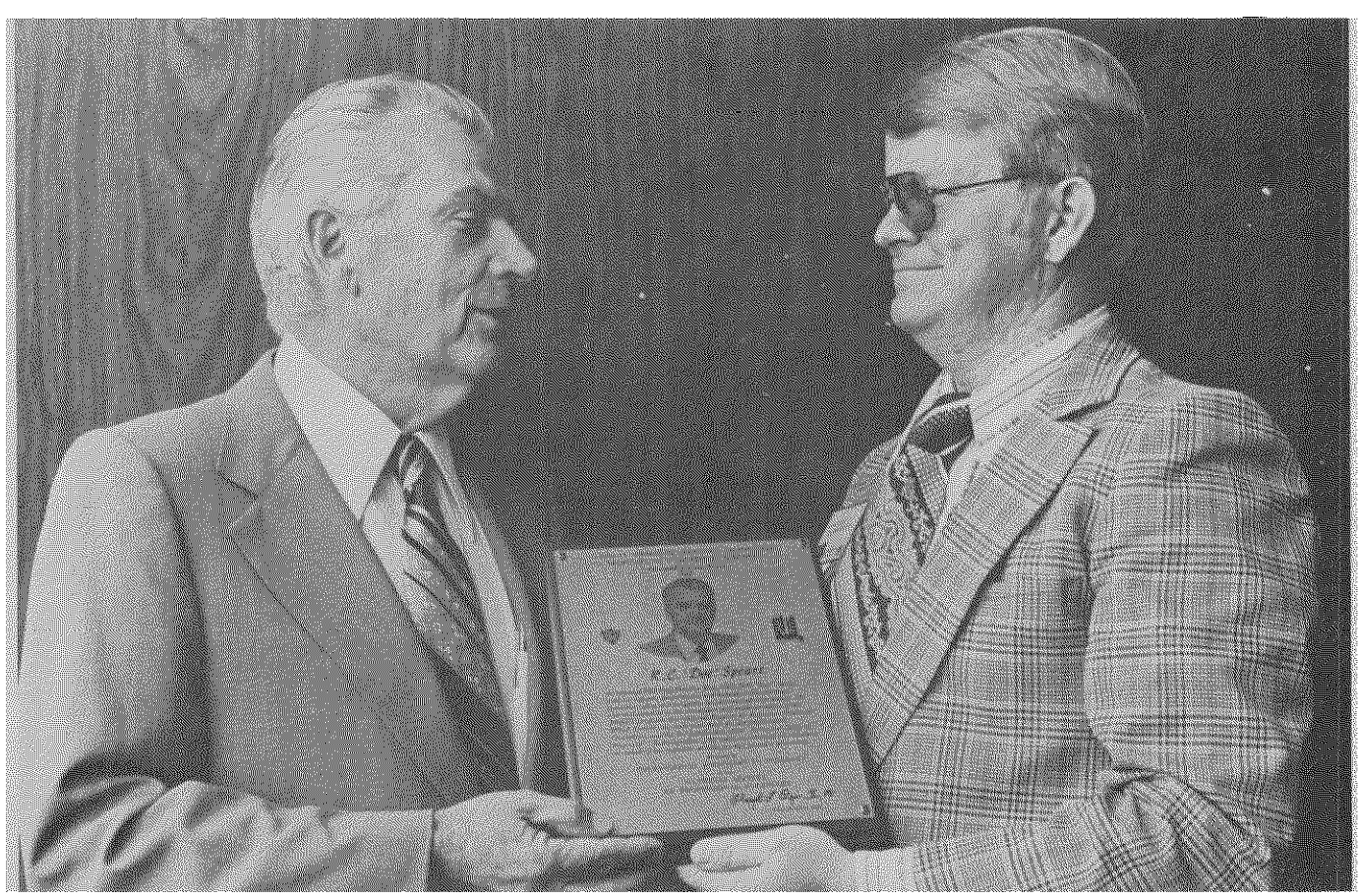


Chris Demopulos, P.E.

The appointment, made by Governor Edwin Edwards, was based on a recommendation by the Louisiana Engineering Society and is effective for nine years.

The new board member has served in various executive positions, ranging from board member to president, for a number of professional associations on the local, state and national levels, including the Consulting Engineers Council of Louisiana; Shreveport Chapter, American Society of Civil Engineers; Shreveport Post, Society of Ameri-

Continued on page 18



LES Executive Secretary R. C. Spears receiving the 1977 Distinguished Service Award from Lloyd Piper, P. E., chairman of the PEI Division of the National Society of Professional Engineers. The award was presented in July in Anaheim, California.

Continued from page 17

can Military Engineers; Louisiana Engineering Society; and the American Consulting Engineers Council.

In addition, he currently holds memberships in the National Society of Professional Engineers; Texas Society of Professional Engineers; Society of American Military Engineers; American Concrete Institute; Houston Engineering and Scientific Society; and the Consulting Engineers Council of Louisiana.

A 1947 graduate of Texas A&M University with a BS degree in engineering, Demopulos has been an active member and past president of the Texas A&M Club of North Louisiana.

Demopulos is married to the former Sophia Soteropulos, and the couple has two children: Anastasia Elaine, who has a BS in fine arts from Southern Methodist University, and Paul Chris, a student at SMU.

IN MEMORIAM
Robert J. Drueding

Robert J. Drueding, P.E., vice president of Boh Brothers Construction Company, passed away unexpectedly at his home July 1.

He was a native of New Orleans, where he attended Tulane University and received a degree in civil engineering in 1926.

Upon completing his formal education, he worked with the Orleans Levee Board, advancing to assistant chief engineer. In 1942 he was employed as chief engineer on the construction of the Dirigible Base for the United States Navy in Houma. In 1948 he joined Boh Brothers and was made vice president of engineering in 1966.

Drueding was a member of the Society of American Military Engineers, a Life Member of the Louisiana Engineering Society, and a registered professional engineer in Louisiana. He was a member of the Gentilly Presbyterian Church.

An avid golfer, he was a long-time member of Metairie Country Club. He was also a worldwide traveler.

He is survived by his widow, Hermine Garsaud Drueding, one daughter, Dorothy Bondurant, three granddaughters and one great-granddaughter.

Beside his ability as a professional he will also be remembered for his cheerful disposition and likeable personality.

IN MEMORIAM
Guy H. Johnston, P.E.

It is with profound sorrow that LES announces the death on July 5 of Guy H. Johnston, P.E., of Rayne.

Johnston received a BS degree in petroleum engineering from LSU in 1941 and had been a member of LES

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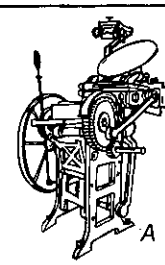

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and NSPE since 1965. He was a captain in the U.S. Army from 1941 to 1945 and served in the Pacific theater in an engineering unit. After World War II, he worked for Stanolind Oil and Gas Company in Lafayette and Houston. He was self-employed from 1954 to 1961 and then joined Stamm-Schelle, Inc., in Rayne.

The Louisiana Engineering Society extends its deepest sympathy to his family.

IN MEMORIAM

Phillip P. Angier, P.E.

Phillip P. Angier, P.E., 86, of Alexandria, a Life Member of the Louisiana Engineering Society, passed away April 1.

Angier was a New Hampshire native and graduated in civil engineering from the University of Michigan in 1915. He joined the Louisiana Department of Highways in 1931. He was inducted into the Louisiana Highways Hall of Honor in 1976.

He joined the Louisiana Engineering Society in 1942 and completed 30 years of continuous service in the society to qualify for Life Membership.

The Louisiana Engineering Society feels a personal and profound sense of loss and extends deepest sympathy to his wife and family.

NOTICE

Registered professional engineers and land surveyors may order a copy of the 1978 *Yearbook* published by the Louisiana State Board of Registration for Professional Engineers and Land Surveyors by simply checking a box provided on their cards for renewal of registration.

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Potpourri Continued from page 15

New NSPE Policy for PEs and Technologists

With the issue of engineering technology playing an ever-increasing role in education and employment circles, the NSPE Board at Anaheim approved a new professional policy regarding technology and engineering.

NSPE believes that a bachelor's degree in engineering from an approved engineering program is the minimum educational requirement for those who seek to be registered professional engineers. A bachelor of engineering technology program should be recognized as a program which prepares persons to work "in support of engineering activities (as stated by ECPD) and not as a substitute program for the bachelor's degree in engineering."

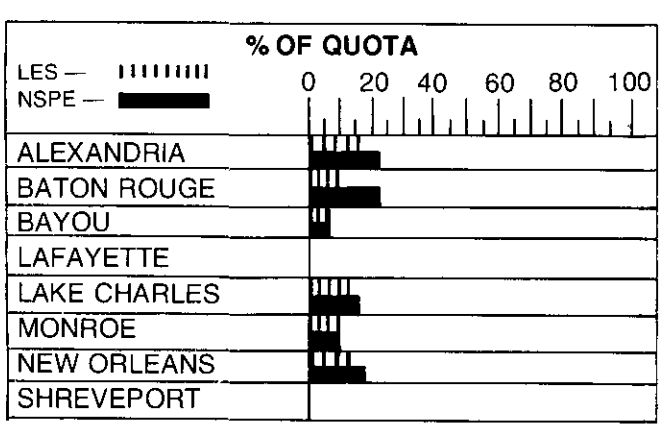
Membership Memo

Henry E. Markel, P.E.

The 1977 Fall Training Conference is now history. This year's meeting was preceded by a one-day Membership Retention and Recruiting Workshop. Conducted by William C. Gager of NSPE, the workshop was a great success. The exchange of information by those in attendance showed that LES is moving at a deliberate pace to unify the engineering profession in Louisiana.

You, too, can help! Contact your local chapter president and *DEMAND* that he assign you to the committee of your choice. Make him an offer he can't refuse!

Welcome aboard!



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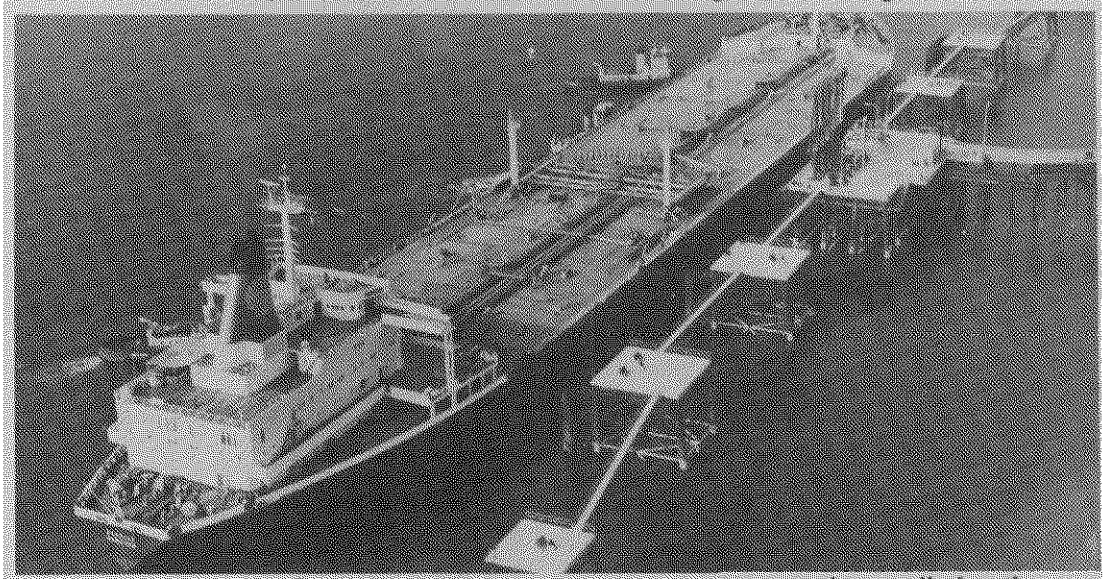

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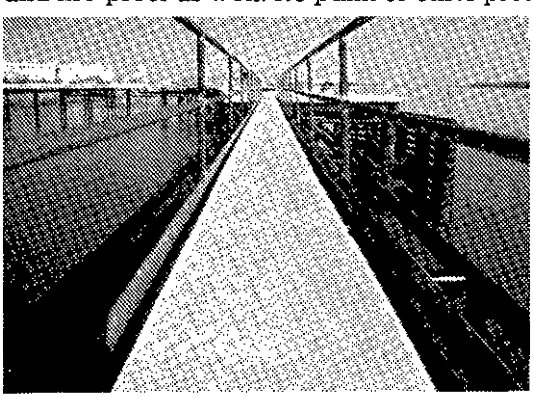

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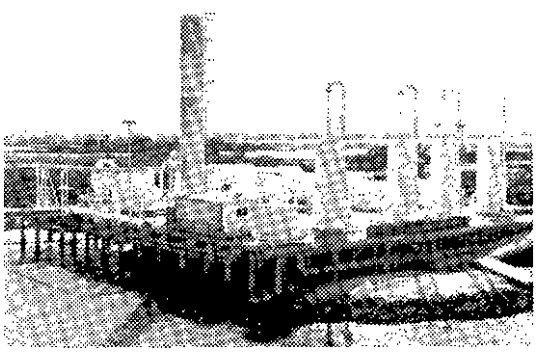

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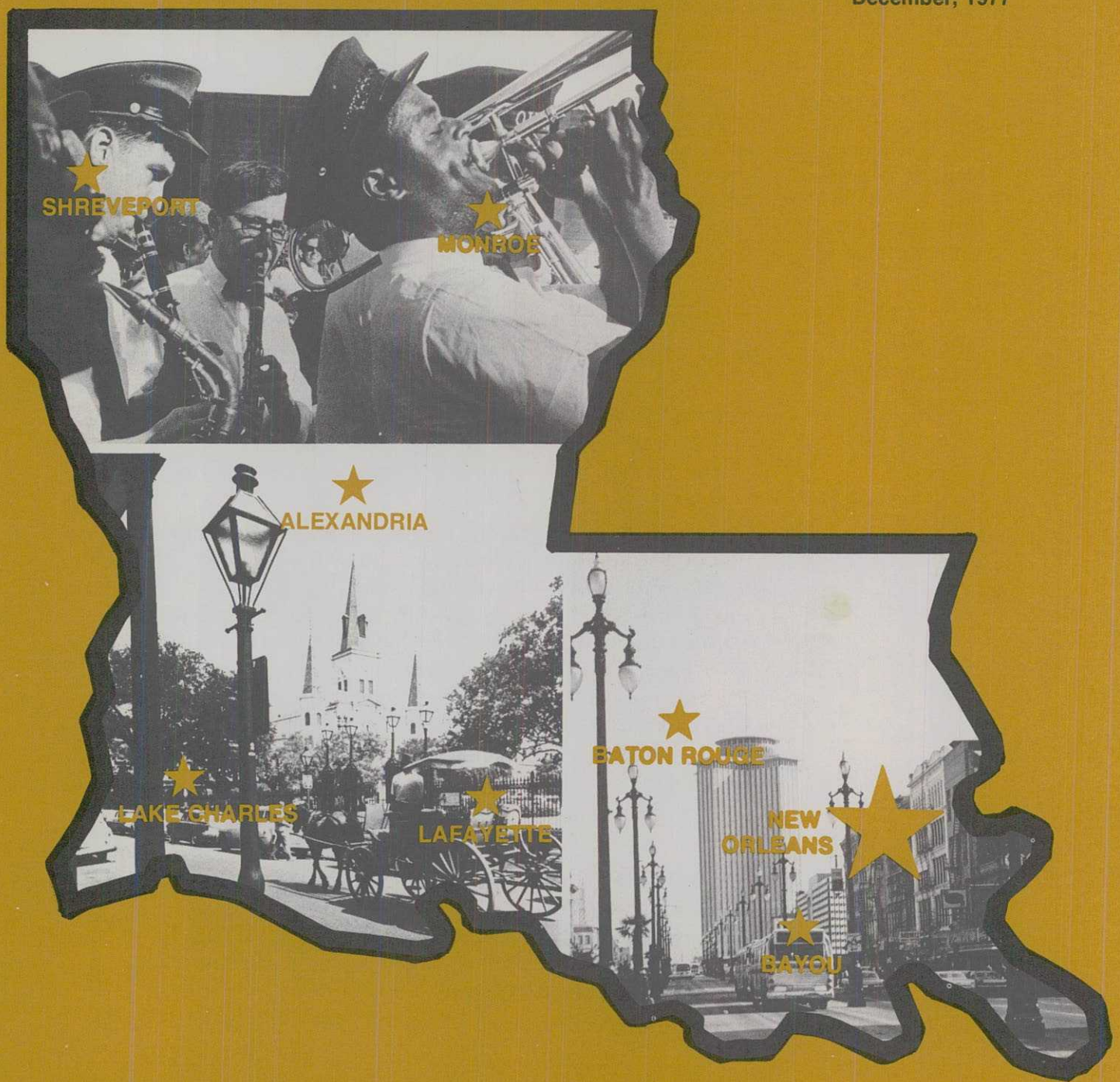

LES TO CELEBRATE 80TH BIRTHDAY BY HOSTING NSPE WINTER MEETING IN NEW ORLEANS JANUARY 22-28

LES TO HOST 1978 WINTER NSPE MEETING

New Orleans will be the scene for the 1978 Winter Meeting of the National Society for Professional Engineers. Scheduled for January 22-28 at the Marriott Hotel, an outstanding program of professional meetings and social events has been planned, according to Meeting Chairman Al Adoue, P.E., of the New Orleans Chapter. All Louisiana Engineering Society members, whether registered or not, are urged to join with the engineers from a total of 54 states and U. S. possessions in discussing those factors which influence the practice of their profession.

Some highlights of interest include:

Sunday, January 22	— Early Bird Reception, admission by registration only.
Monday, January 23	— PEI/PEG Harbor Cruise, including open bars, buffet dinner and dancing to live music.
	— Ladies' Guided Walking Tour of homes and patios in the French Quarter.
Tuesday, January 24	— Combined Practice Division Luncheon, featuring Dr. Frank Iddings of Louisiana State University, who will speak on "Nuclear Energy—Is Radiation a Hazard?"
	— PEC Dinner and the show, "A Funny Thing Happened On The Way To The Forum," at the Beverly Playhouse. Limited number of tickets available.
	— PEPP Dinner at the Plimsoll Club featuring local historian Buddy Stall as the speaker.
	— Ladies' Luncheon and Mardi Gras Style Show at Gallier Hall (Old City Hall).
Wednesday, January 25	— PEC Special Seminar, "Building for the Handicapped."
	— Ladies' City Tour, stopping at homes representing "Yesterday, Today and Tomorrow."
	— State of Society Dinner
	— Regional Breakfasts—Vice President Waldemar S. Nelson, P.E., invites all Louisiana engineers to join with the engineers from the Southwest Region at this event.
Thursday, January 26	— Ladies' Plantation Tour on the River Road with lunch at The Hermitage.
Friday, January 27	— Wind Down Dinner-Dance featuring the 16-piece band, JUBILATION!

Registration is encouraged but is not necessary in order to attend the above events except the Early Bird Cocktail Party. To receive a copy of the advance registration form, please contact Henry E. Markel, Jr., P.E., c/o New Orleans Public Service, Inc., P.O. Box 60340, New Orleans, LA 70160 or call at (504) 586-2383.

Your attendance will show our visitors why Louisiana and the Louisiana Engineering Society are where the action is!

Roster of Chief Executives Of Engineering Organizations

The Inter-Society Relations Committee of the Louisiana Engineering Society attempts to correspond regularly with the chief executives of each constituent component of the engineering organizations it can identify in the state of Louisiana. If your organization is interested in participating actively in inter-society matters you are welcome to request through LES headquarters that your organization be included. There will be ample opportunity for each organization to apprise itself of LES inter-society programs and to provide input when it so desires, as well as presenting its own inter-society interests and programs to LES and other organizations through a formal channel of communications.

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December, 1977

LOUISIANA ENGINEER

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About the Cover

LES is hosting the Winter Meeting of the National Society of Professional Engineers January 22-28. Let's have good representation from each LES chapter in the state when the program convenes in New Orleans.

In This Issue

Roster of Chief Executives of Engineering Organization .. 3
Presidential Privilege 5
The Civil Engineer Citizen: What Role and Responsibility in Government 6
Potpourri 8
EngiNEWS 11
Vliet's Views 16

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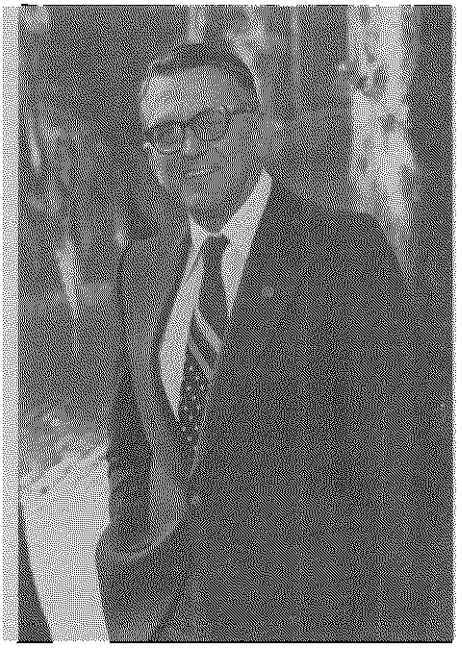


Next year our society will be 80 years old. Louisiana has the distinction of having one of the oldest state engineering societies in the nation and has the further distinction of hosting the annual meeting of the National Society of Professional Engineers in New Orleans the week of January 22, 1978.

The convention will be held at the Marriott Hotel from Sunday, January 22 through Saturday, January 28, and any LES member who can be in New Orleans during those days is invited to join me and the rest of your state officers in welcoming the other 49 states to New Orleans. We have scheduled our January LES Board of Direction meeting for that Friday in New Orleans as another effort to assemble Louisiana engineers who can assist in the entertainment of out-of-town guests. We are fortunate in that these dates fall between the Super Bowl and Mardi Gras and can be incorporated into a great schedule of events for visitors from throughout the nation.

December is the midpoint of my administrative year and I can honestly say that I have enjoyed these first six months and owe a debt of appreciation to all of you. We have had very active, worthwhile and productive board meetings. Our membership workshop and chapter officer training conference were great successes. Recently, our chapters have been active in the area of honors and awards.

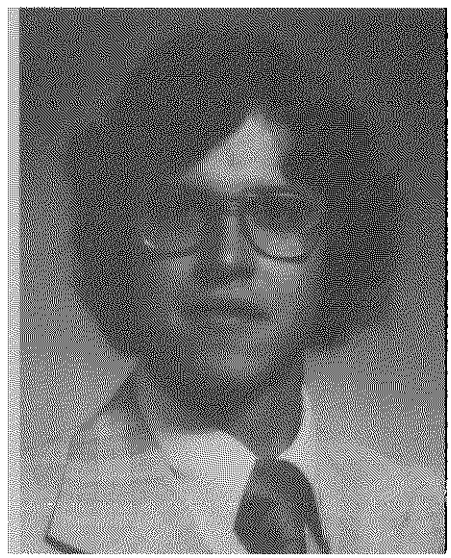
In our continuous involvement on the legislative scene, we have written numerous letters to our senators and representatives in Washington and in Baton Rouge and have received real courtesy and timely responses from each of them. We have held Board of Direction meetings in Biloxi, Mississippi, Alexandria and Lake Charles and have board meetings scheduled next year in New Orleans, Monroe and Baton Rouge. We have had a very active year. There is much more to be done, and like any other thing, we will continue to undertake the obligation, duties and needs of the engineering society.

All of the LES members in responsible charge with whom I have dealt in the past six months have been very conscientious and enthusiastic and a real joy to work with. True, we can always use more members who are willing to devote a little of their time to the profession, but the facts are that I have never worked with such a great group of associates, and you inactive engineers just don't know what you are missing.

Thanks for everything. Merry Christmas and the very best for each of you in 1978.

The Civil Engineer Citizen: What Role And Responsibility In Government

Keith Strickland



EDITORIAL NOTE: *Keith Strickland, a senior student in civil engineering at Louisiana Tech University, has been awarded the Daniel W. Mead Award by the National American Society of Civil Engineers for this paper submitted in nationwide competition. Only one award was made.*

He received a certificate and plaque during an impressive awards session on October 19, at the National ASCE Convention in San Francisco. His paper will be published soon in one of the National ASCE publications.

The common goal for all engineers is to become true professionals. Professionals are given special status in society to insure that the public is protected and that the most efficient services are offered. This special status carries with it an obligation which involves the uttermost concern for the advancement of human welfare. Engineers should speak out on social matters affecting the public and be willing to volunteer the types of services that would not normally warrant compensation.

Engineering has always had a close association with science, but only in recent years has there been any effort made to correlate engineering with social institutions. Engineering is beginning to prove the importance of its role in today's society. Society feels that scientists and engineers are solely responsible for the accelerating spiral of technological developments; therefore, scientists and engineers should be obligated to clean up the resulting pollutants without any financial assistance

from the average citizen. Most people do not realize that it is the demand for these new products that allows this spiral to happen. People take for granted all the pleasures and comforts that they enjoy, even though these satisfactions have brought about some bad side effects. The only way that the environment can be saved is through cooperation among all responsible parties.

When the average citizen selects the type of individual that he would want to make policy decisions, an engineer is very seldom considered because too many times engineers do not speak out on social matters. Yet engineers are highly suited for making policy decisions because of their educational training. The gap in our society between the sciences and the humanities can best be bridged by the professional, concerned engineer. The scientist who uncovers new laws controlling our universe is usually apathetic to what problems these discoveries may cause. On the other hand, the politician or businessman who formulates policy and plans for the future is usually not aware of the things that science can offer. This is where a mediator is beneficial, and who is more qualified than an engineer who has applied these sciences and has witnessed the impacts that these discoveries have had on our society.

Because civil engineering is an instrument for bettering human living conditions and not merely a process of rearranging physical things, civil engineers should volunteer their professional knowledge to governmental commissions and committees more frequently than any other branch of engineering. Civil engineers should also feel this obligation because their engineering services affect the public more directly than all other branches of engineering.

Civil engineers have to take the responsibility of being the nation's conscience as far as public works are concerned. Many communities along with their elected officials are nearsighted about the future. This involves transportation, population growth, water supply management and solid waste disposal. The general public is beginning to realize that there is not an inexhaustible amount of clean water and that the disposal of solid and liquid wastes is not a problem that will be solved by neglect.

The ideal method of selecting civil engineers to serve on voluntary governmental committees is to have professional societies recommend engineers with favorable standings within the profession. This method would reduce the politically motivated appointments and the questionable appointments that are caused by the ignorance of the persons responsible for making appointments.

Speaking at local clubs and civic organizations is an important aspect of informing the public on governmental issues. This aids the community in evaluating proposed engineering projects, and it improves the public image of the civil engineering profession.

The civil engineer of today is obligated to express his concern about the welfare of the community. He is obligated to do this as both a professional and a citizen because of the ever-increasing influence that special interest groups are having on policy-making decisions. The civil engineer is better equipped to make unbiased observations on policy than an emotionally motivated idealist.

To fulfill these obligations adequately, a civil engineer must be well educated and informed. His education must never end, because he must continually expand his knowledge of the technological, social and physical environments. He must be well informed in all of these areas to be able to make the wisest decisions dealing with current and future situations. By doing this he can be of maximum service to the public.

Being well informed is vital when using governmental regulations. Many government regulations and codes are the absolute minimum standards. The civil engineer must use his judgment in deciding how far to exceed the basic requirements. New information that determines these standards is being collected every day. Civil engineers should work to modify regulations that do not reflect presently accepted theories.

A civil engineer should be a registered voter and vote in local, state and national elections. He should use the channels of communication that are available through his elected representatives at all levels of government.

Some engineers' responsibilities may go beyond just being well informed voters. This could lead concerned civil engineers into running for public offices. What more effective way of influencing decisions on governmental policy than to be in the groups that make these decisions. This is not just limited to local offices, but could be applied to state and federal offices.

A professional civil engineer should be conscious of the problems of the day—technical as well as political, social, moral and economic. A civil engineer should inquire more about the work that he is asked to do. He should explore the social implications and feel more responsible for the social impacts caused by his actions. He should be concerned with all aspects of the community and not limit his participation to technical problems. He should also speak out on the needs of the community.

Civil engineers have a duty to become involved in the activities of their professional societies. These societies serve an important role in forming laws that promote professionalism in civil engineering. The public receives better service from civil engineers that are true professionals.

For a civil engineer to be a true professional, he must use his career as a service to the needs of mankind. There is no service that is more basic for helping mankind than to be a responsible citizen in your own community.

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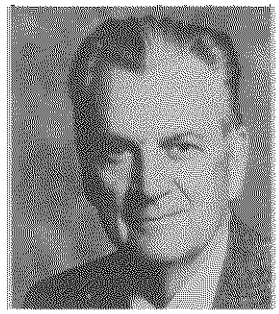

No LES-MES Joint Meeting in 1978

The Louisiana and Mississippi engineering societies have held joint meetings for the past seven years, alternating between New Orleans and Biloxi. The meetings have been productive and very enjoyable, but MES decided not to join us in 1978 in New Orleans.

LES will hold its 1978 state meeting July 13-15 at the Royal Sonesta Hotel, New Orleans. There will be committee and practice division meetings, recreation, and a banquet to install the 1978-79 LES officers. We will miss our Mississippi colleagues, but make your plans now to attend the meeting.

LES To Be 80 Years Old in 1978

On February 3, 1898, the charter of the Louisiana Engineering Society was granted to 29 members in New Orleans. This charter begins: "The objects of this corporation shall be the professional improvement of its members, the encouragement of social intercourse among engineers and men of practical science and the advancement of engineering." These objectives are the same today with our 3,150 members.

Next February 3 will be our 80th birthday, a time for celebration and for reflection. LES believes every engineer should belong to his technical society and to LES, his professional society. Let us set a goal of 4,000 members in 1978. It can be done with your help. If every member will get one engineer to join, we will exceed the goal. It's that simple. Will you accept the challenge?

Demand for Engineering Graduates Good

The economic laws of supply and demand are once again affecting the engineering field. The demand for energy and technological advances has brought about a renewed need for engineers of all disciplines and the demand is being reflected in the enrollments at engineering schools throughout the country.

Jack Thigpen, P.E., dean of engineering at Louisiana Tech University, said enrollment began picking up at Tech around 1974 and has climbed steadily since. This year, Tech's College of Engineering has its largest enrollment ever, with about 1,800 students taking courses and approximately 1,400 engineering majors. The energy problems have had a tremendous effect on new demands for engineers today, he said.

Thigpen has been an active member of the Louisiana Engineering Society for many years and was president of LES in 1973-74.

LES Auto Insurance Program

A November tally of participation in the LES automobile insurance program shows 176 members are now enrolled.

Why not investigate this program? You may save on your automobile insurance by using the LES-sponsored plan. The coverage is underwritten by American International Insurance Company and administered by **Vic LeFeve**, an affiliate member of LES.

For a no-obligation comparison of your present policy and the LES program, write to: Employees Insurance Representatives, P.O. Box 14697, Baton Rouge 70808; or call (504) 926-0483.

UNO Student Chapter

After receiving accreditation for a mechanical engineering curriculum from ECPD (retroactive to Fall 1976), the University of New Orleans requests that its Beta student chapter be changed to Alpha status.

Alpha student chapters may be formed in a college of engineering having a curriculum of at least four year's duration accreditated by the Engineers' Council for Professional Development (ECPD). Beta chap-

ters only require a college of engineering to have a curriculum of at least four years' duration leading to an engineering degree.

The LES Board of Direction will act on UNO's request at its next meeting, January 27.

Specialty Certification in Environmental Engineering Open to NSPE Members

NSPE members can now apply for a specialty certification, in some cases without examination, from the American Academy of Environmental Engineers.

Basic requirements for certification include (1) engineering degree or its educational equivalent, (2) engineering license, (3) eight years of environmental engineering experience following graduation, (4) written examination, and (5) oral test.

Under the grandfather clause for members of new sponsoring organizations, *for a limited time only*, NSPE members will be considered for certification *without examination*, if they can demonstrate at least 15 years of engineering experience acceptable to the AAEE Board in one or more of the specialty fields. Such applicants must clearly identify their NSPE membership and the provision under which application is made [10.8.1 (3)].

Application forms and further details are available from: American Academy of Environmental Engineers, P.O. Box 1278, Rockville, Maryland 20850; telephone (301) 762-7797.

New Golightly Study Shows Engineering in Dramatic Gain as Source of Corporate Chiefs

More engineers than ever before are rising to become chief executive officers (CEOs) of major companies.

This is a key finding in a new study of backgrounds of the men who have held the top executive position in the country's 100 largest corporations during the past five years. The survey was conducted by Golightly & Company International, Inc., a management consultant firm.

The major findings of the just-completed study covering 1973-77 show that financial executives hold 23 percent of the CEO jobs, marketing men are in second place with 19 percent, and engineers have surged to third place with 15 percent. The results, according to the study, indicate the growing emphasis on versatility as a qualification for the top job.

"While the modern CEO may bring to his job particular strengths in one certain area, business has become so complex that he must have a command of a wide range of ideas," says Golightly. "This point is borne out by the surge of engineers as well. Once engineering executives were too locked into their disciplines to acquire mastery of other management skills. In recent years engineers have been broadening their range of effectiveness."

Salaries of Engineering Technicians and Technologists, 1977

The Engineering Manpower Commission of the Engineers Joint Council has been surveying salaries of engineering technicians and technologists at two-year intervals since 1966. Data for 1977 were received from 556 employers covering a total of 48,855 technicians and technologists. For purposes of the survey, technicians are defined as the graduates of two-year college-level programs in engineering technology or as non-graduates doing equivalent work on the basis of comparable combinations of education and experience. Technologists are graduates of four-year programs leading to a bachelor's degree in engineering technology.

The median annual salary for technicians, both two-year graduates and non-graduates, runs from $10,500 in the first year since graduation or at age 20, to $16,500 for those with 21 to 26 years of experience. The non-graduate median starts at $9,000 and increases to $15,900 after 20 to 26 years of experience.

Technologists start with two additional years of education and their median income runs from $12,550 to $19,350 annually. Since the bachelor of technology is relatively new on the educational scene, 64 percent of the salaries reported were for graduates not more than eight years out of school.

Complete survey results in the form of detailed salary tables, curves, and full description of methodology and coverage are being published by EJC. Please contact Engineers Joint Council, 345 E. 47th Street, New York, New York 10017 for information, availability and price for "Salaries of Engineering Technicians and Technologists, 1977."

Continued on page 10

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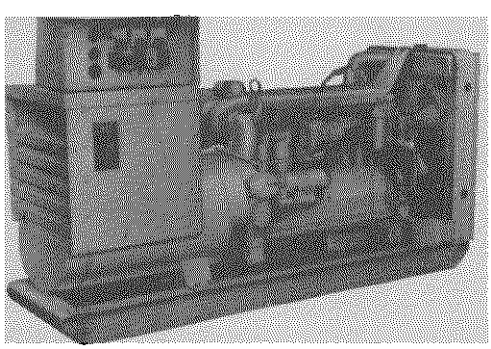

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POTPOURRI

Continued from page 9

Congratulations to Charles E. Prewitt, P.E.

Charles E. Prewitt, P.E., has been appointed executive vice president of Denson Engineers, Inc., New Orleans. He joined the Denson firm in 1974 and has recently returned from Kuala Lumpur, Malaysia and Tokyo on assignments from Exxon Malaysia to help increase offshore production in those areas.

Prewitt is a 1970 graduate in mechanical engineering from the University of Kentucky. He is an active member of NSPE, ASME and the Louisiana Engineering Society.

Standard on Fire Protection for Laboratories Using Chemicals

Comments and suggestions referring to the *Standard on Fire Protection for Laboratories using Chemicals* (NFPA 45) are being sought by the National Fire Protection Association (NFPA).

Originally adopted in 1975, this standard establishes basic requirements for the protection of life and property in laboratories handling hazardous chemicals. It is especially designed to protect people from the effects of harmful chemicals to which they may be exposed as a result of fire or explosions.

In order to develop revisions of NFPA 45 on the broadest base possible, comments from any interested person is sought by May 1978. Such comments should be sent to the NFPA headquarters.

Complete text of the standard is available in a pamphlet edition for $3. Orders should be addressed to NFPA Publications Sales Department, 470 Atlantic Avenue, Boston, Massachusetts 02210.

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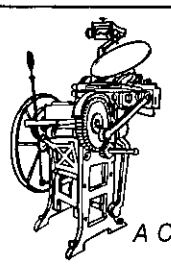

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EngiNEWS

Baton Rouge Branch Of ASCE to Meet January 19

The Baton Rouge branch of the American Society of Civil Engineers (ASCE) will meet January 19 at 5:30 p.m. at the Sheraton Inn, Baton Rouge. Theme of the meeting will be "The Registration of Professional Engineers Contingent on Membership in a Professional Organization." James L. Meyer, P.E., will be the principal speaker.

For reservations and information, contact Michael Dooley, 389-5488, after January 16.



Professional engineers receiving certificates at the meeting of the New Orleans Chapter of LES on November 15 are as follows: Front row, from the left, Thomas E. Lewis, P.E.; M. Day Fezler, III, P.E.; Wylmer C. Pool, P.E.; John Goffredo, P.E.; and Gary R. Vincent, P.E. Back row, same order, William H. Brundige, Jr., P.E.; Glenn A. Garaudy, P.E.; Richard P. Pata, P.E. and James J. Goodwin, P.E.

Continued on page 12

Spring 1978 Engineering Management Courses at LSU

FACULTY

The courses will be taught by regular faculty members of the LSU College of Business Administration and Engineering or by able, qualified professors from other universities in the state.

CERTIFICATE

Upon completion of four acceptable courses and a certificate application form, the participant will be awarded a Certificate in Engineering Management by the Division of Continuing Education. **An Advanced Certificate will be awarded to students who take a total of six courses.**

COST

The registration fee per participant is $150 for each course and includes the cost of textbooks.

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 preregister for the classes complete the attached form and return with $10 preregistration fee. Fee is applicable toward the $150 total registration fee and will be refunded if class chosen is not offered.

AVAILABLE COURSES

Course A — Concepts of Modern Management
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Course C — Engineering Economy
Course D — Financial Decision Making
Course E — Operations Research for Engineers
Course F — Basic Engineering Statistics
Course G — Human Relations
Course H — Cost Estimating & Engineering and Management

Please complete the following form and return it with the $10 preregistration fee to the address below if you are interested in the Spring 1978 program. (Classes will begin during the week of January 23, 1978.)

Name _____

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Louisiana State University
Baton Rouge, Louisiana 70803

I wish to preregister 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 preregistration fee. This condition also applies if the class is scheduled on a night I cannot attend.*

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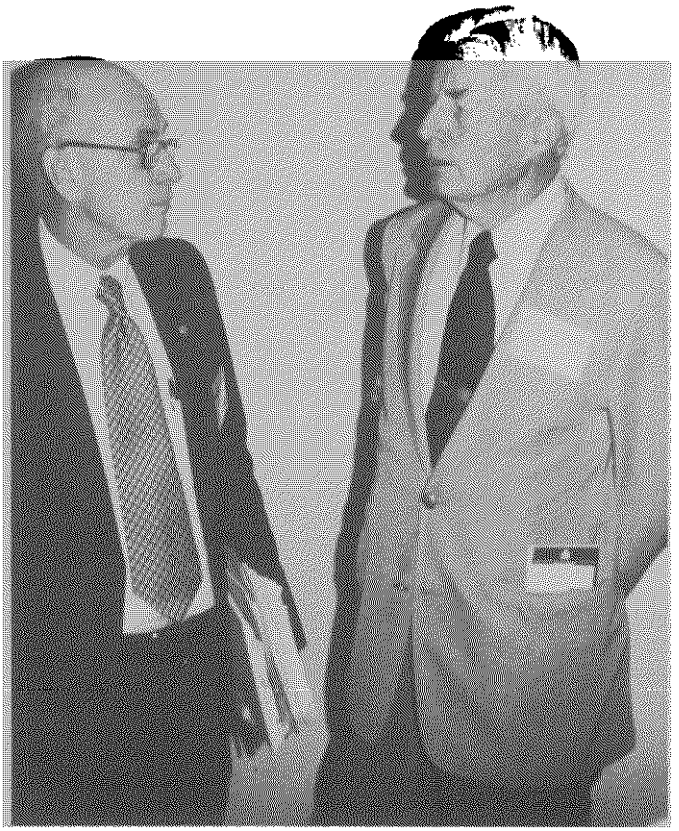
Continued from page 11



Louisiana engineers pose with Del Schmand, P.E., NSPE president, at the NSPE Southwestern Regional Meeting October 21 in Laredo, Texas. Left to right are James Janssen, P.E., LES national director; Dick Muller, P.E., New Orleans; Schmand; and Marvin Firmin, P.E., vice president for the Southwest Region, Professional Engineers in Construction.



Roger Richardson, P.E., right, discusses professional school of engineering concept with Charles H. Sampson, P.E., chairman of the Civil Engineering Department of Texas A&M University, at the NSPE Southwestern Regional Meeting October 21 in Laredo, Texas.

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LES members receiving membership certificates at the New Orleans chapter meeting November 15 are as follows: Front row, left to right, John K. Guidry, P.E.; Robert R. Fairless, P.E.; William L. Preslan, P.E.; and J. L. St. John, P.E. Back row, same order, Robert E. Evans, P.E.; T. I. Martin, P.E.; and Wilson L. Maloz.

IN MEMORIAM

Elmer J. Bishop

Elmer J. Bishop of Metairie died April 12. He attended the University of Wisconsin and was employed by Aer-O-Flo Corporation in Metairie, where he served a 10-state area in technical and sales engineering. He joined the Louisiana Engineering Society in 1968 as an affiliate member.

Continued on page 14

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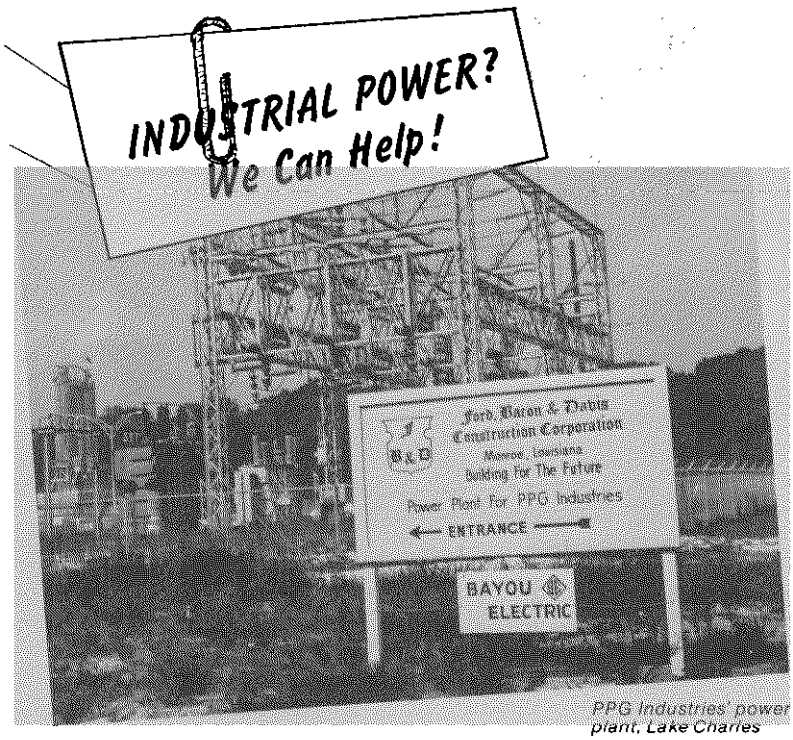

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3. Published six times annually, THE LOUISIANA ENGINEER now has a circulation of over 14,000 per issue. In addition to its "home" circulation, many copies are sent to members of the engineering profession throughout the United States and overseas. Special attention is given to coverage of engineering activities in Baton Rouge, Shreveport, Lake Charles, Alexandria, Monroe, Lafayette, New Orleans, and the Bayou Lafourche area.

4. Many copies of THE LOUISIANA ENGINEER are mailed to Louisiana high school libraries through a gift subscription program. We believe the magazine is of great value and interest to the young people.

5. While THE LOUISIANA ENGINEER is primarily devoted to news and comment on engineering activities in Louisiana, it continually reports engineering news of major interest elsewhere. THE LOUISIANA ENGINEER is the official medium by which the state's registered professional engineers and the Registration Board make known the society's and the board's position on all matters pertaining to the profession.

6. THE LOUISIANA ENGINEER is a non-profit publication administered and supervised by the Louisiana Engineering Society and all advertising contracts are with the society. All revenue derived from the publication is used by the society to defray publication costs.

7. As a publication THE LOUISIANA ENGINEER allows the standard commission to accredited national, regional and local advertising agencies.

8. THE LOUISIANA ENGINEER performs a very special and desirable service to the engineering profession in Louisiana. Wherever and whenever possible it seeks the support, via advertising contracts, of the membership of the society and those firms and individuals whose basic interest is professional engineering. New ideas, products and personnel are of editorial as well as advertising interest to THE LOUISIANA ENGINEER.

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Continued from page 13

LES extends deepest sympathy to his wife and family.

IN MEMORIAM

William M. Brewer, P.E.

William M. Brewer, P.E., a former vice president of Middle South Services, Inc., died on November 9 in Greenville, Mississippi.

A native of Memphis and a graduate of the University of Tennessee, he had been a resident of New Orleans since 1963. Prior to his retirement in August 1976, he served as vice president for corporate planning. He had joined the Middle South system in 1940 with Arkansas Power & Light and had become vice president of engineering at Middle South Services in 1963.

He was a member of the Institute of Electric and Electronics Engineers, South Central Companies and Edison Electric Institute and had been a member of the Louisiana Engineering Society since 1969.

LES extends its deepest sympathy to his wife, Jane Wall Brewer, and the family.

IN MEMORIAM

George C. Hengy, P.E.

George C. Hengy, a past president of the Shreveport Chapter of the Louisiana Engineering Society, died October 26. He was a native of Denison and had lived in Carthage since 1971, moving there from Shreveport.

He was also a past president of the Louisiana Military Engineering Society and was a member of the American Institute of Electrical and Electronics Engineers.

LES extends sincere sympathy to his wife and family.

IN MEMORIAM

Algoth B. Paulson, Jr., P.E.

Algoth B. Paulson, 52, died on May 28. He was assistant head of environmental control at Kaiser

Aluminum's Chalmette Works in New Orleans.

A native of New Orleans, he attended Tulane University and received a degree in mechanical engineering in 1947. He then received a commission as a first lieutenant in the U.S. Army Reserve and worked for the Corps of Engineers in New Orleans from 1948 to 1953.

He was a registered mechanical and industrial engineer in Louisiana and a senior member of the American Institute of Industrial Engineers.

LES offers condolences to his family.

IN MEMORIAM

John E. Pottharst, Jr.
John E. Pottharst, III

John E. Pottharst, Jr., president of Mechanical Equipment Company of New Orleans, and his son, John E. Pottharst, III, vice president of the firm, were killed in a tragic crash of their private jet plane in Lake Pontchartrain on November 7.

The senior executive had been a member of the Louisiana Engineering Society since 1943, and his son had been a member since 1972.

Private funeral services with Requiem Mass were held November 8 in New Orleans. Interment was in Metairie Cemetery. The Louisiana Engineering Society has lost two outstanding members. Our deepest sympathy to their families.

IN MEMORIAM

John E. Shaw, Jr.

John E. Shaw, an engineer for Freeport Sulphur Company for 37 years, died September 30 in New Orleans.

A native of New Orleans, he helped plan and develop Freeport's offshore mine at Grand Isle and had worked to develop the processing plant for a nickel mine. When he retired, he was manager of engineering for Freeport Sulphur, a subsidiary of Freeport Minerals Company.

He is survived by his wife, three daughters, his mother and a brother and sister, to whom LES offers condolences.

IN MEMORIAM

Hermann William Stumborg, Jr.

Hermann W. Stumborg, Jr. died in New Orleans April 26 after a brief illness.

A native of New Orleans, he graduated in marine engineering from the United States Merchant Marine Academy in 1942 and was an engineering officer until 1949, when he joined the Electric Power Department of New Orleans Public Service, Inc.

In 1953, he resumed his engineering studies at Tulane University while working part-time at NOPSI. He rejoined the firm on a full-time basis in 1956. At the time of his death, he was superintendent of the Market Street Generating Station, an assignment he had held for 10 years.

He was a member of the Engineers Club of New Orleans and the American Society of Mechanical Engineers, and had been a member of the Louisiana Engineering Society since 1957.

LES extends its deepest sympathy to his widow, the former Evelyn Guess, and his family.

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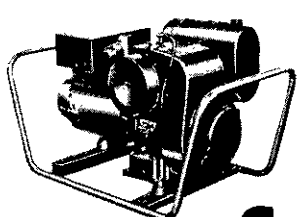

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Vliet's Views

Daniel H. Vliet
Executive Secretary
Louisiana State Board of Registration for Professional Engineers and Land Surveyors



There is an important deadline ahead that will affect the registration of professional engineers in our state. Effective next July 1, people who qualify for registration as professional engineers on the basis of graduation plus experience must pass two eight-hour written examinations. At present only an eight-hour examination in fundamental engineering subjects is required. Until that date, the State Board of Registration may, on the basis of an oral examination, waive this requirement for people who were graduated from an approved engineering curriculum before July 1, 1959 or for those whose credit for passing the fundamentals examination has expired.

Engineers-in-training who have four years of satisfactory experience subsequent to graduation from an approved engineering curriculum are encouraged to submit their applications for registration at once. They will save the EIT renewal fee and may avoid an eight-hour written examination in the branch of engineering for which they seek registration.

Some graduates of approved engineering curricula for various reasons have not taken the fundamentals examination even though they have acquired more than four years of satisfactory experience subsequent to graduation. These persons are encouraged to make application to take the examination prior to February 15. The examination will be offered on April 15 in Baton Rouge, Lafayette, New Orleans and Ruston. The $15 fee to take the examination is recognized as a cash credit toward registration for those who pass. In addition, passing the examination may make some of these people eligible for registration prior to the time that the second eight-hour examination is required.

It is still possible for persons who are not graduates of an approved engineering curriculum to become registered as professional engineers in Louisiana. Again, the examination in fundamental engineering subjects should be passed as soon as possible. Last January the requirements for registration were changed to require four years of satisfactory experience subsequent to becoming certified as an engineer-in-training for those who apply for registration as professional engineers on the basis of experience plus examination. Procrastination for a year in taking the fundamentals examination could result in a one-year delay in becoming registered.

Under present regulations the only people who can qualify for initial registration without being subject to the requirement of an examination in fundamental engineering subjects are those who meet the requirements for registration on the basis of long-established practice. The basic experience requirement is 20 years of professional-level engineering work. At least 12 years of this engineering experience must have been acquired by the applicant at times he was in responsible charge of important engineering work. In addition, the applicant must pass an eight-hour written examination in the branch of engineering in which he seeks registration.

The office of the State Board of Registration will be pleased to answer questions relative to registration matters and to provide the necessary application materials.

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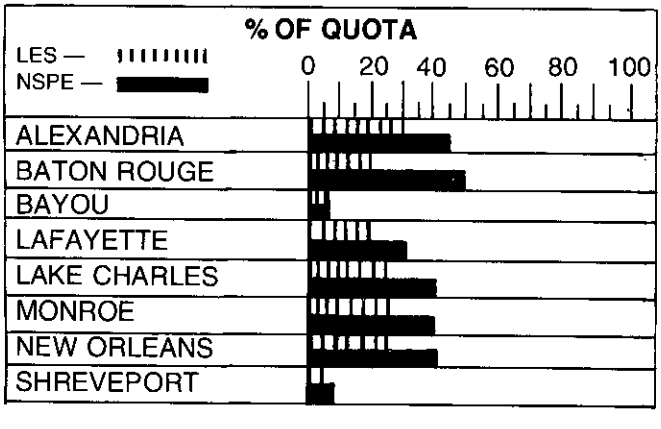

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Continued from October issue

JULY 27, 1977

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Allen, John Sidney
Houma, LA—Petroleum
Alvarado, Nicolas Arturo
New Orleans, LA—Electrical
Alvarez, Jose Florencio
Baton Rouge, LA—Mechanical
Ashby, Jr., Corydon Merriman
Lafayette, LA—Petroleum
Ashe, Tommy Lynn
Baton Rouge, LA—Mechanical
Aspinwall, Francis Holden
Ponchatoula, LA—Civil
Bailey, Howard Burns
Sarepta, LA—Electrical
Baker, David Lawrence
Houma, LA—Mechanical
Barksdale, Richard Dillon
Atlanta, GA—Civil
Barry, David Walter
Church Point, LA—Electrical
Baugh, Warren Samuel
Shreveport, LA—Civil
Bechtold, Michael Wayne
Metairie, LA—Chemical
Benoit, Edgar Philip
Houma, LA—Electrical
Berkey, Jr., Harry Alexander
Houston, TX—Chemical
Bertels, Jr., John Aloysius
Shawnee Mission, KS—Civil
Beyers, Kenneth Paul
Dallas, TX—Mechanical
Bliss, Norman Rudolph
Shaker Heights, OH—Mech.
Boitmann, Don Raymond
Garland, TX—Mechanical
Bonnesen, Viggo
Stamford, CT—Civil
Boudreaux, Richard Hardy
London, Eng.—Civil
Boyce, Colin Lionel
Metairie, LA—Electrical
Boyd, Frank Lee
Oklahoma City, OK—Petroleum
Brasier, Charles Augustus
Katy, TX—Petroleum
Brazzell, Stephen Michael
Metairie, LA—Mechanical
Broussard, Earl Lee
Lake Arthur, LA—Civil
Broussard, Frederick D.
Baton Rouge, LA—Industrial
Broussard, Reynold Dan
Metairie, LA—Civil
Brummerhop, Frank George
Baton Rouge, LA—Mechanical
Brundige, Jr., William Hart
New Orleans, LA—Civil
Bryant, James Edward
Monroe, LA—Mechanical
Burrows, Peter George
New Orleans, LA—Civil

Continued on page 18

New Registrations
Continued from page 17

Butler, III, Randle William
Gretna, LA—Electrical
Cadwallader, Daniel Compton
Baton Rouge, LA—Chemical
Campos, Robert
Metairie, LA—Civil
Carlson, William Frederick
Houston, TX—Chemical
Chauhan, Lakhbir S.
Baton Rouge, LA—Mechanical
Chifici, Gasper Anthony
Thibodaux, LA—Civil
Chisholm, Tom Shepherd
Baton Rouge, LA—Agricultural
Clark, William Grady
Florence, MS—Civil
Clower, Patrick Alton
Lafayette, LA—Mechanical
Cohen, Howard Sheldon
Merrick, NY—Chemical
Cole, III, Samuel Dixon
Clayton, LA—Civil
Collins, Joseph Paul
Lafayette, LA—Petroleum
Colvin, Charles Chris
Shreveport, LA—Industrial
Comeaux, Roger Dale
Baton Rouge, LA—Electrical
Conner, Howard Scott
Baton Rouge, LA—Chemical
Courville, James
Baton Rouge, LA—Chemical
Crane, Charles Leroy
Mandeville, LA—Mechanical
Crockett, David Henry
Denver, CO—Petroleum
Cunningham, Fred James
Metairie, LA—Civil
Dave, Santoshkumar G.
Houston, TX—Mechanical
Day, Norman Walter
Bremerton, WA—Civil
DeLeone, John Carmen
Churchville, PA—Mechanical
DeMoor, Raymond James
Lafayette, LA—Elec. & Indus.
Dickerson, James Rodney
Gretna, LA—Chemical
Dinon, Donald Joseph
New Orleans, LA—Civil
Eads, Jr., James Walter
Monroe, LA—Electrical
Ecton, William Ford
Spring, TX—Electrical
Egan, James Cox
Warminster, PA—Civil
Ellstrom, Terry Wayne
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Erekson, Paul Webb
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Foster, Roger Glenn
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Freeman, William Harrell
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Funk, Roger Lynn
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Gallagher, Eugene James
Harvey, LA—Civil
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Gibson, Gerald Lynn
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Glenn, David Byron
Shreveport, LA—Electrical
Goffredo, John
New Orleans, LA—Civil
Gonzalez, Luis Carlos
Edison, NJ—Electrical
Goodson, Norman Lance
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Goodwin, James Joseph
Gretna, LA—Mechanical
Gremillion, Richard Martin
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Plum, Gary Lee
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SEPTEMBER 28, 1977

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Continued on page 20

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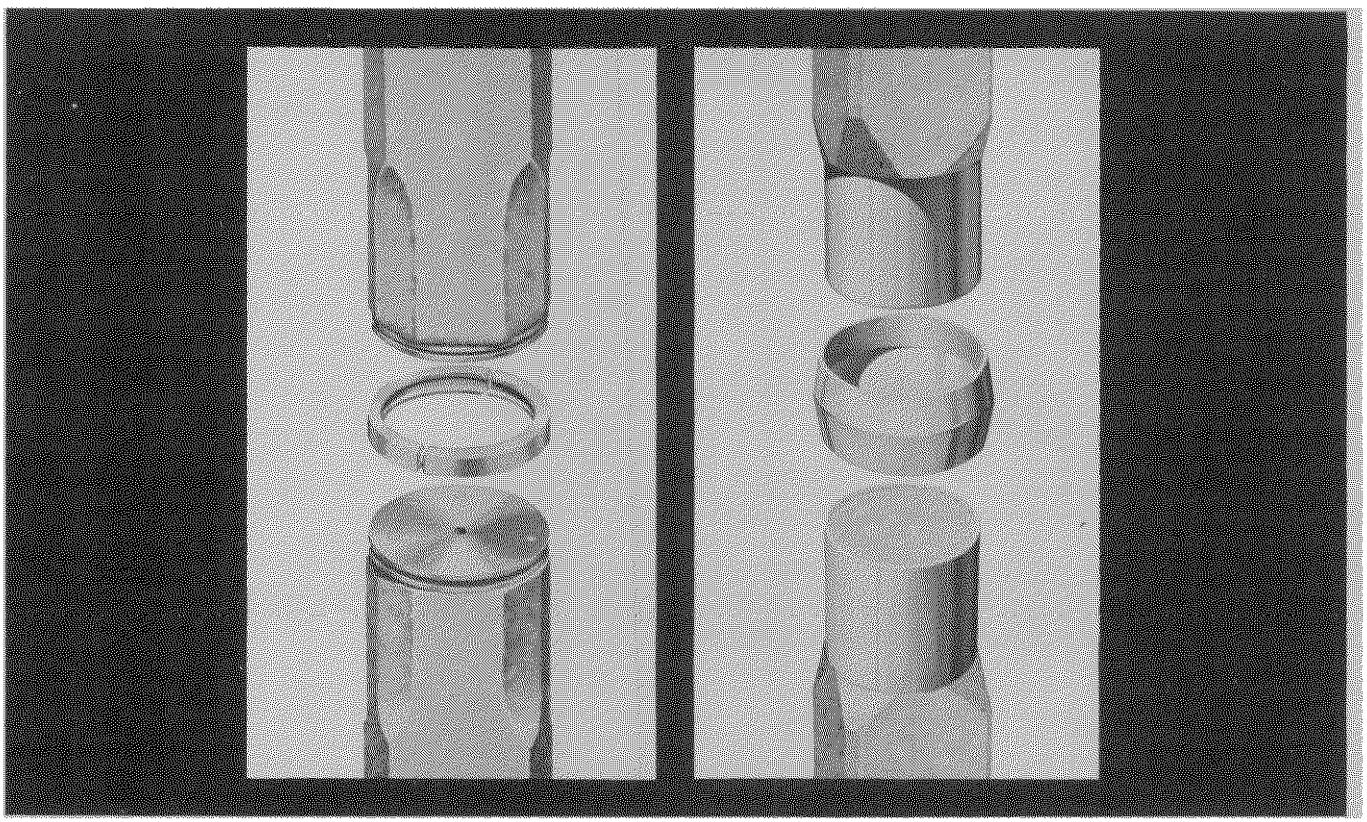

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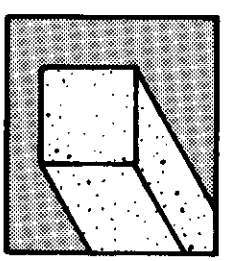

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