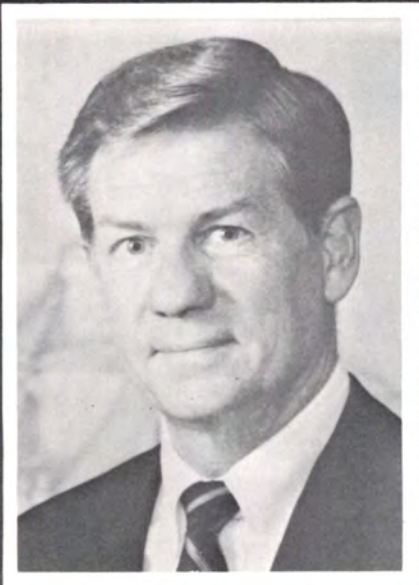
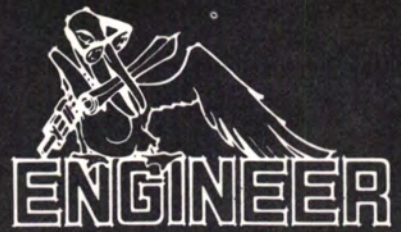




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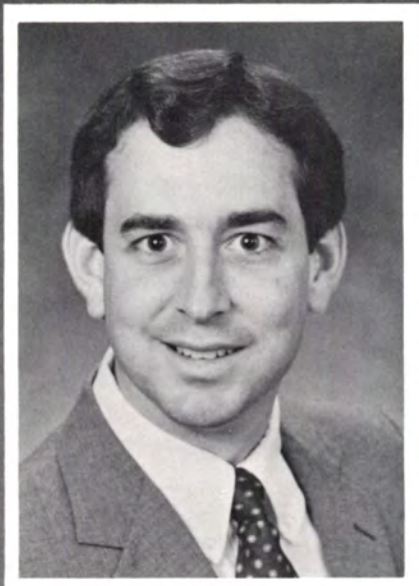
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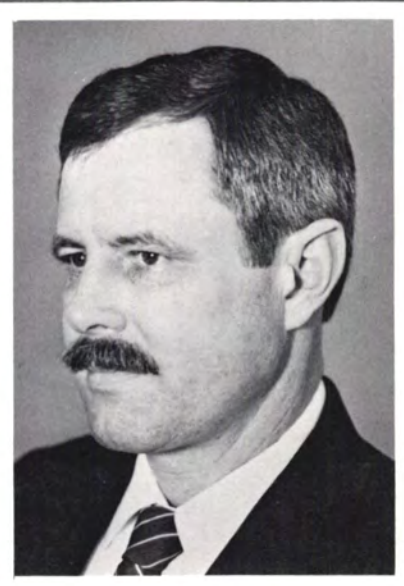
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**LES
Honors
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ABOUT THE COVER

The Louisiana Engineering Society honors five outstanding engineers. Story begins on page 6.



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The LOUISIANA ENGINEER is the official publication of the Louisiana Engineering Society. The LOUISIANA ENGINEER is 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 \$1.65 per year for engineers registered in Louisiana and non-registered members of the Louisiana Engineering Society. One dollar and sixty-five cents of each LES member's annual dues is set aside for six issues of the LOUISIANA ENGINEER. 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. ISSN : 0024-6794

Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318; 1213 Nicholson Drive, Baton Rouge, La.

"Will the Real Professionals Stand Up"

I play a game with my pre-school daughter. I ask her, "Who loves their daddy?" She quickly replies, "Me!" I then ask her, "Who's me?" She emphatically replies, "Christy Lynn Pennison." She leaves no doubt in my mind that she loves me very much as she reaffirms her reply with a hug and kiss.

As a professional engineer, I have had the opportunity to mentally pose that question to fellow "professional" engineers.

"Who loves their profession?"

"Me!"

"Who's me?"

"I. M. Professional"

"Super! We can then count on your support of your professional organization. Right? Excuse me, was that a yes or a no, Mr. Professional?"

So please, will the real "professionals" stand up? Everyone else, please remain seated.

The Louisiana Engineering Society (LES), an affiliate of the National Society of Professional Engineers (NSPE), is the only professional organization in the State of Louisiana that supports your engineering profession as a body. There are several technical and practice organizations, but only one professional organization. I believe that the members of LES/NSPE are the real "professionals" in our state and in our nation.

They stand head and shoulders above the crowd, ready to be counted, to be called upon to defend and support the profession that they chose and love, in the American tradition. Which leaves us with the responsibility in the membership committee to identify who the other guys are, those that call themselves "professionals" but remain seated.

They are professional engineers by title, probably bright, creative, hard working, ambitious engineers. They make an average annual income in excess of \$40,000, but will not support their profession for the price of a new suit each year. They take from their profession, and give nothing in return. They complain about what's wrong with our profession, and do nothing to become a part of the solution. The bottom line is that they do not love



James W. Reeves, Ph.D., P.E.
President
Louisiana Engineering Society

their profession, they just say that they do. Or perhaps, deep in their hearts they do love their profession, but are merely unwilling to become responsible for supporting that love affair with the commitment such relationships require.

What are we doing to get 8,175 resident engineers to stand up with the 2,140 "real" professionals who are presently standing? We are working to provide you with the opportunity to become committed to your profession. We believe you must be committed, because you spend more time with your profession than you do your spouse.

We do not believe that "professionalism" is inherent in our profession, just as morals are not inherent in our world. Professionalism involves "ethics" of professional life styles, just as "morals" involves social life styles. Ethics is learned by association and involvement with those who practice ethically, through role modeling and instruction.

That is why our mission at LES is "Providing Professional Development for the Professional Engineer" through three avenues. Those are "Professional Education, Involvement and Recognition." LES/NSPE is working to meet this mission through action plans "LES 90" and "NSPE 2000." We are continuing the

necessary and successful programs and activities of past years, as well as adding new programs and activities to meet the future of our profession.

In the membership committee, our challenge this year is to see the following projects initiated or accomplished. We believe that these programs will revive professionalism and support of our professional organization.

- (1) Continuing Professional Education as a requirement for professional registration, active status, will serve to establish a more level "playing field" for ethical practice of engineering.
- (2) Specialty certification will be made available by maintaining CPE units in specialty areas.
- (3) LES in a role of coordinating CPE courses at the chapter and state level will be an added benefit to members.
- (4) Requiring joint membership in LES/NSPE for any new members will ensure support of our national professional organization and the programs it provides.
- (5) A corporate membership program will benefit and identify those employers that support "professional" practice.
- (6) Decentralization of most programs and activities to the chapter level will better serve the needs of "professionals" in that socio-economic area.

We believe that these projects along with our mission statement will restore your confidence and faith in your profession and in your professional organization. We want to see a majority of our resident engineers standing up to say "Yes, you can count on my support. I too want to become a "real" professional."

Will the real professionals please stand up? Everyone else, please remain seated. Thank You!LE

(By Presidential request, this article was written by Garland P. Pennison, P.E., LES Membership Chairman)

Highlights of NSPE's 1989 Winter Meeting

The Society's Winter Meeting held in January in Atlanta, Ga., resulted in a number of actions by the Board of Directors. The following is an overview of primary proceedings of the meeting.

National Institute for Engineering Management and Systems (NIEMS)

The Board approved a bylaw forming a semiautonomous institute within NSPE to "address principles of management involving individual and business practices as well as those related to the engineer's roles as employer, employees, servant of society, and citizen."

NIEMS will begin official operation on Feb. 1. The NSPE president will appoint a Board of Governors qualified and knowledgeable in the fields of management and engineering. It is envisioned that NIEMS will function as a separate fiscal entity within NSPE and have its own funding sources. The institute will, however, use NSPE's administrative services.

NIEMS activities currently being planned include: a quality management seminar, planned for April 24-26; ongoing leadership education for NSPE's officers; and sale of products relating to quality management theory and practice.

Political Contributions Policy

NSPE now has an official policy on political contributions as adopted by the Board of Directors. Consistent with the NSPE Code of Ethics, the policy counsels against engineers making political contributions intended to influence the award and administration of contracts involving a public authority, or which may have the appearance of unethical behavior.

In short, the NSPE policy:

- Endorses public disclosure laws identifying political contributions to federal, state, and local candidates;
- Calls for enactment of laws and rules, administered by state ethics and election commissions and professional and trade licensing boards, intended to assist candidates and professionals in avoiding ethical and legal conflicts relating to political contributions; and
- Endorses the establishment of state ethics and election commissions in those states where such commissions do not exist.

In addition NSPE advocates that such commissions be empowered to:

- Require timely candidate reporting of political contributions;
 - Establish campaign contributions limits based upon the nature of the public office;
 - Establish a certification requirement whereby all contractors on public work certify under penalty of perjury that they have complied with all applicable campaign finance laws; and
 - Establish penalties and enforcement authority for state ethics commissions in actions against parties that fail to follow the requirements of the law.
- The policy also advocates that state licensing boards for all professions and trades be empowered to:
- Require from all applicants for licenses or renewals a written certification of compliance with applicable campaign finance laws and rules; and
 - Establish penalties and take appropriate enforcement action against parties who fail to follow the requirements of the laws and rules.

National Institute of Engineering Ethics (NIEE)

The premier showing of a video on engineering ethics at the Board of Directors' meeting marked the first official product of NIEE. The video, which is a case study of an engineer's ethical dilemma, will be made available this spring to state societies, chapters, and engineering colleges. NIEE is currently preparing a discussion guide to accompany the video. The semiautonomous institute, approved by the NSPE Board at its July '88 Annual Meeting, held its first Board of Governors meeting in Atlanta in connection with the NSPE Joint Practice Division Plenary Session on Ethics. NIEE is divided into three divisions—education, research/study, and engineering practice.

Infrastructure

America's public works infrastructure, after several years of neglect, is now receiving renewed attention. The NSPE Board adopted an official position on this issue at the Winter Meeting. Prepared by the Legislative & Government Affairs Committee, the policy calls for, among other things, new emphasis on privatiza-

tion of essential public services, expansion of the term "public works" to include utilities, and the introduction of state-of-the-art planning systems as a requirement for future rational management. It also embraces the National Council on Public Works Improvement report, "Fragile Foundations: A Report on America's Public Works."

Construction Job Site Safety

Approved was a position stating NSPE's support of improved job-site safety on construction sites. NSPE opposes provisions of legislation introduced in the last Congress that would make engineers responsible for the action of others not under their direct supervision and control. The Society recognizes the need for increased safety and plans to work closely with the 101st Congress to develop appropriate legislation.

NSPE carefully examined this issue during a construction-site safety symposium at the Atlanta meeting. The session featured panel discussions on the functions of the professional engineer in the construction process as well as on the legislative and regulatory attempts to address the problems of construction-site safety.

Transportation Trust Fund

Acting on a resolution presented by the Pennsylvania Society, the NSPE Board agreed to recommend that the transportation trust funds be removed from the Unified National Budget and that existing dedicated transportation trust funds not be used for deficit reduction. In addition, NSPE called for any proposed increase in transportation user fees to be limited to the purposes for which that trust fund was originally created until transportation infrastructure needs are met.

Competitiveness

The Board adopted a resolution, recommended by the Professional Engineers in Private Practice, that NSPE propose and support legislation to address the international competitiveness of America's consulting professional engineers. Such legislation would address technology transfer, the private involvement of U.S. firms abroad, and the increased international presence of

LES Honors Outstanding Engineers



A. B. PATERSON MEDAL FOR AN ENGINEER IN MANAGEMENT

The Louisiana Engineering Society has a special award for an 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.



Eugene H. Owen, P.E.

Eugene H. Owen, P.E., is President of Owen and White, Inc. a consulting engineering firm where he supervises twenty-five professional, technical, and clerical personnel specializing in utility and public works engineering, flood control, and aerial photogrammetry operating throughout the south central United States. Mr. Owen graduated Summa Cum Laude from Vanderbilt University in 1951 where he received his Bachelor of Science Degree in Mechanical Engineering. He is a Registered Professional Engineer in Louisiana and nine other states.

Mr. Owen's expertise in innovative corporate management, finance, and organizational techniques has enabled him not to only successfully manage a consulting engineering firm but to create, finance, and manage a number of prosperous public and private utilities.

LEO M. ODOM AWARD FOR SERVICES TO THE PROFESSION

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



Frank H. Walk, P.E.

Frank H. Walk, P.E., has been engaged in the practice of consulting engineering in Louisiana since 1955. Together with Gerald M. Haydel, he heads the firm of Walk, Haydel & Associates, Inc., a multi-discipline organization with over 500+ engineers and technicians specializing in complete industrial plant design, overall project management, environmental engineering and construction management.

Mr. Walk received a Bachelor of Science Degree in Engineering from Louisiana State University in 1942. He is a registered Professional Engineer in several states in both civil and mechanical engineering. He served as a commissioned officer in the U. S. Army Corps of Engineers from 1942 to 1946 retiring as a Colonel. From 1946 to 1955, Mr. Walk served in various engineering and management positions in private industry.

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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 member of LES from 1900 until his death in 1945.



Virgil Orr, Ph.D., P.E.

Virgil Orr, Ph.D., P.E., because of his dissatisfaction with the fiscal affairs of Louisiana and the directions of movement, qualified and campaigned for a seat in the Louisiana House of Representatives, District 12. Dr. Orr was elected and now serves actively with representation on the Ways and Means Committee, the Education Committee, the Retirement Committee, and the Legislative Services Counsel. He also represents the Education Committee to the Board of Regents' Committee to review the funding formula for higher education.

Dr. Orr is a Registered Professional Engineer in Louisiana having received his Bachelor of Science Degree in Chemical Engineering from Louisiana Tech University. He received his Master and Doctorate Degrees from Louisiana State University. Post Doctoral Studies

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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. F. Hugh Coughlin was a member from 1944 until his death in 1979. 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 A. Guillot, P.E./P.L.S.

John A. Guillot, P.E./P.L.S., is a 1978 graduate of Louisiana Tech University with both Bachelor and Master of Science Degrees in Civil Engineering. Between degrees, Jay worked for a year in Shreveport practicing in the area of land development. Upon completion of graduate studies, he moved to New Orleans and worked several years as an engineer for both Walk, Haydel and Associates, Inc., and Waldemar S. Nelson and Company, Inc. During this period, he practiced primarily in the industrial sector designing and field inspecting civil related industrial projects for plant expansions and marine docking facilities. Jay returned to Ruston in 1985 and is currently Vice President and Principal of The Riley Company of Louisiana, Inc. His responsibilities include administration, design and construction management of Civil Engineering Projects.

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JAMES 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.



Charles W. Hair, III, P.E.

The 1989 recipient of the James M. Todd Technological Accomplishment Medal is Charles W. Hair, III, P.E., Chief Engineer at Louis Capozzoli & Associates, Inc., Baton Rouge. A native of Houston, Texas, but reared in Baton Rouge, Louisiana, Mr. Hair received his Bachelor of Science Degree in Civil Engineering from Louisiana State University and his Master Degree in Civil Engineering from the Massachusetts Institute of Technology. He is a Registered Professional Engineer in Louisiana.

Most of Mr. Hair's professional career has been with Louis Capozzoli & Associates, Inc. except for a two year time he served on active duty as a commissioned officer in the United States Army. His active duty time included Engineer School at Ft. Belvoir, VA and Vietnam combat service as a Scout Helicopter Pilot and Platoon Leader. He is presently

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EUGENE H. OWEN, P.E.

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He serves as President of both the Baton Rouge Water Company and the Louisiana Water Company. As President of the two companies, Mr. Owen is responsible for the long range planning and day to day operations of the water utilities with a combined total of three hundred ninety-two employees and one hundred thirty-three thousand customers. Mr. Owen is also President and Chairman of Utility Holdings, Inc.

Under Mr. Owen's management, the Harrison County (MS) Wastewater Management District was created. The District is the consolidation of four separate city facilities with over a dozen privately owned facilities into a single treatment authority serving about one hundred fifty thousand people. The formation of this district was in direct conflict with a plan promoted by the Environmental Protection Agency and the State of Mississippi. The plan offered some very unique features: a construction program which maximizes the utilization of existing facilities and resulted in the saving of several million dollars; a unique grant sharing program to prevent any of the member agencies from being penalized by reductions in grant percentages during the eight-year construction schedule; and, a cost-oriented user charge system in which each of the communities pays only for services received.

The Hiwassee Utilities Commission was created under the direction of Mr. Owen. The project consolidated the water supply and distribution systems of seven communities and several public utility districts of two counties in eastern Tennessee into a single system. The newly organized district consists of 7.5 mgd raw water intake, treatment facility, and over twenty miles of distribution pipes operating at pressures up to 315 psi. Financing the construction of this facility consisted of combining funds and objectives of the Farmers Home Administration, the Economic Development Agency, the Appalachian Regional Commission and local financing.

The formation of the Louisiana Water Company involved the cash purchase of existing water utilities from the Central Louisiana Electric Company (exceeding \$10 million). Each of the systems required extensive rehabilitation to produce adequate quantities of good quality water. The entire cost of acquisition and construction of these systems was financed through regular corporate financial channels. The Louisiana Water Company serves customers in the Louisiana cities of New Iberia, Crowley, Eunice, DeQuincy, Mansura, Lecompte, and Loreauville.

Later, Utility Holdings, Inc. was formed as a holding company by Mr. Owen. This company acquired 100% of the stock of the Louisiana Water Company and then made a successful cash tender offer in 1987 for stock in the Baton Rouge Water Company, acquiring 82% of the stock in this tender. This acquisition was financed in large part through the private placement of corporate bonds arranged by Mr. Owen.

Mr. Owen is very active in the community. He is currently serving as a member of the Board of Directors or Trustee to Premier Bancorp, Inc., the Louisiana National Bank, the Baton Rouge Water Company, the French Settlement Water Company, the First Presbyterian Church, the Baton Rouge Chamber of Commerce, the Baton Rouge Symphony, the National Association of Water Companies, and Utility Holdings, Inc. He is a member of the National Society of Professional Engineers, the Louisiana Engineering Society, Tau Beta Pi, Omicron Delta Kappa, the American Public Works Association, the American Society of Photogrammetry, the American Water Works Association, and the National Association of Water Companies.

In 1951, Mr. Owen received the Vanderbilt University Founders Medal, Valedictory, School of Engineering, and the Samuel Weakley Award for Outstanding Engineering Graduate from Vanderbilt University. He received the Southern Association of Science and Industry Award for Engineering Excellence in 1956.

He is married to the former Barbara Cherry and they are natives of Covington, Tennessee. They have three children.

The accomplishments of Mr. Owen as a manager and professional engineer make him a worthy recipient of the A. B. Paterson Medal for an Engineer in Management.

FRANK H. WALK, P.E.

Continued from page 6

Mr. Walk is a Past President of the Consulting Engineers Council of Louisiana and Past Chairman of the Industrial and Utilities Relations Committee and a member of the Political Action Council of the American Consulting Engineers Council. He has served on the Project Management Program Committee and the Construction Management Committee of the American Consulting Engineers Council. He has served ACEC in the capacity of National Director from Louisiana, and has been awarded the

rank of Fellow in the American Consulting Engineers Council.

Mr. Walk is Past Chairman of the National Executive Committee, Petroleum Division, of the American Society of Mechanical Engineers (ASME). He served as National Chairman of the Hydrocarbon Processing Committee of the Petroleum Division of ASME and was Chairman of the New Orleans Section of ASME. Additionally, he served as Chairman of the Energysources Technology Conference and Exhibition for ASME. In 1984, he received the ETCE's first Frank Evans Award for outstanding contributions to ETCE; he also received ASME's Edgar Pavia Award for service to the Society. In 1981, he was awarded the grade of Fellow in the American Society of Mechanical Engineers.

As a member of the Society of American Military Engineers (SAME), Mr. Walk has served as Regional Vice President of the Lower Mississippi Valley and is currently serving as a National Vice President and Director. He is also a Past President of the Louisiana Post SAME, and now as a member of the Executive Committee. In 1975, he was presented the National SAME Public Service Award and in 1983 awarded the prestigious SAME John W. Morris Award for outstanding sustaining member.

He was Chairman of the Louisiana Section of Professional Engineers in Private Practice and a Director of the Louisiana Engineering Society and was awarded the distinguished Andrew M. Lockett Medal for Civic Activities in 1977. In 1984, Mr. Walk was presented the A. B. Paterson Award for Engineer in Management.

Mr. Walk holds membership in the American Society of Civil Engineers, the American Petroleum Institute, the Mississippi Society of Professional Engineers, the Instrument Society of America, the National Society of Professional Engineers, the Louisiana Engineering Society, the American Society of Mechanical Engineers, the American Water Works Association, the Association of the United States Army, the Society of American Military Engineers, and Tau Beta Pi.

In 1987, President Ronald W. Reagan, with full Senate confirmation, appointed Mr. Walk to a nine year term as a member of the Mississippi River Commission.

From 1981 to 1984, Mr. Walk served as a member of the Board to the Department of Commerce and Industry for the State of Louisiana and in 1983 was appointed by the U. S. Secretary of Commerce to the Industry Section Advisory Committee on Services for Trade Policy Matters. From 1982 to 1984, Mr. Walk

served the State of Louisiana as a member of the Governor's Committee of 100. He is a member of the United States Chamber of Commerce and is currently serving as a member to the Louisiana District Export Council of the U. S. Department of Commerce.

Mr. Walk has been active in educational leadership at all levels. He is a member of the Board of Directors of the Louisiana State University Foundation and has aggressively sought the raising of college level standards of training and improved facilities, and fought to improve the level of training for the technical profession at the state schools in Louisiana, Mississippi, and Alabama. He served as Chairman to the University of New Orleans Engineering Advisory Council and Secretary to the University of New Orleans Engineering Development Fund for the years 1982-84. He is currently interim Chairman of the UNO Development Fund.

Mr. Walk is married to Consuelo Faust Walk, and has five children and five grandchildren.

Mr. Walk's high ethical standards, unselfish service and outstanding achievement record are an inspiration to the engineering profession. His active participation through the Louisiana Engineering Society and other technical, and civic organizations indeed exemplifies the highest ideals honored by the Leo M. Odom Award for Services to the Profession.

VIRGIL ORR, Ph.D., P.E.

Continued from page 7

were performed at Louisiana Tech University and the Oak Ridge Institute of Nuclear Science.

Dr. Orr has been very active in the Ruston-Lincoln Chamber of Commerce having served as President and Committee Chairman of the Russ Award. He is currently serving as Chairman of the Retiree Attraction Committee, an economic development project, to attract retirees to choose Lincoln Parish as a retirement home. The committee is coordinating a conceptual design of a retirement village to be developed at the site of the present airport when the new airport is completed.

Dr. Orr has served on the Board of Directors to the Louisiana Tech University Foundation and the Louisiana Tech Home Economics Foundation, and as President of the Louisiana Tech Engineering Foundation. He is very active

in community affairs having served on the Board of Directors of the Ruston Sunrise Kiwanis Club and as a member of the Council for a Better Louisiana and the Public Affairs Research Council.

Dr. Orr was appointed to the Board of Nuclear Energy, the Gulf South Research Institute, the Governor's Learning Advisory Committee, the Governor's Committee of 100, to the Advisory Committee of the State Department of Education, and as a Research Advisor to the Louisiana Board of Regents.

He is very active in the Temple Baptist Church having served as a Deacon since 1955. He is a Sunday School Teacher, Department Director, Choir Member, Chairman of the Deacons, Chairman of the Long Range Planning Committee, and Member of the Building Committee.

Most of Dr. Orr's professional career has been in education. He was Dean of the College, Louisiana Tech University, from 1963-1970. As Dean, he was chief academic officer and designated second ranking administrator with primary responsibility for six colleges; Library, Computing Center, Nuclear Center, Admissions and Registrar, Student Financial Aid, and High School Relations. He also served as a Faculty Member, Department Head, and Vice President for Academic Affairs.

Since his retirement from Louisiana Tech University, he has served as a consultant to the Board of Regents relative to the state support research and development program. He is presently a Director of the American Bank of Ruston and the Union State Bank in Junction City, Arkansas.

Dr. Orr is a native of Glenmora, Louisiana, and he is married to the former Myrtis Chandler. They have two daughters and four grandchildren.

JOHN A. GUILLOT, P.E./P.L.S.

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He is responsible for the firms structural related work in addition to practicing in the areas of water and sewer distribution, drainage, roads and bridges.

Mr. Guillot is a member of the Louisiana Engineering Society, the National Society of Professional Engineers and the American Society of Civil Engineers. Jay is very active in the Louisiana Engineering Society and is currently serving as First Vice President of the Monroe Chapter. He is also the Monroe Chapter representative and State Secretary-Treasurer of the LES Professional Engineers in Private Practice Division.

In addition to his professional activities, Jay has been extremely active in the community. He is a Director of the Louisiana Tech Engineering Foundation. The Engineering Foundation's purpose is to aid, assist and benefit Louisiana Tech University, and in particular, the School of Engineering. Mr. Guillot also serves on the Adjunct Faculty of the Civil Engineering Department at Louisiana Tech University. He has recently taught a senior level Reinforced Concrete Design Class and a senior level Structural Steel Design Class. He is on the Board of Directors of the Family and Child Studies Institute, is President of the Sigma Nu Fraternity House Corporation, is a Member of the City of Ruston Unsafe Housing Abatement Board, and is a Lay Leader and Board Administrator for the Trinity United Methodist Church.

Mr. Guillot holds memberships in Tau Beta Pi, the National Engineering Honor Society, and in Chi Epsilon, the National Civil Engineering Honor Society. He received "The Samuel McCain Young Civil Engineering Scholarship" as a Senior Engineering Student at Louisiana Tech University. He is a Registered Professional Engineer and Land Surveyor in Louisiana.

Jay is married to the former Susan Ann Sanders of Ruston, Louisiana and they have two daughters, Katie and Kristen.

John A. "Jay" Guillot's outstanding contributions have demonstrated to a high degree capabilities in engineering indicating great potential for further advancement and leadership as a Professional Engineer, the ideals and criteria for the F. Hugh Coughlin Award.

CHARLES W. HAIR, III, P.E.

Continued from page 7

a Major, Corps of Engineers, United States Army Reserve and an instrument rated commercial aviator.

He is a member of the American Society of Civil Engineers, the Louisiana Engineering Society, the National Society of Professional Engineers, the Society of American Military Engineers, and the Reserve Officers Association of the United States.

Mr. Hair's development of an innovative geotechnical engineering design and methodology for investigating embankments on soft soils as well as horizontally drilled pipeline/telecommunication cable crossings of rivers, streams, and other obstacles has earned him the Technological Accomplishment Award. Such methodology has produced highly accurate predictions of foundation subsoil re-

sponse to the constructed facilities. This has allowed controlled placement, using field instrumentation, of safe, economical waste gypsum disposal embankments on very weak South Louisiana backswamp clays. Information generated through post-construction monitoring has also permitted determination of long-term subsoil performance as well as definition of various phenomena associated with aging of the embanked gypsum.

The technological growth and application of innovative design methods for successfully installing horizontal directionally drilled pipeline/telecommunication line river crossings (or other trenchless construction for sewer lines, obstacles, etc.) have been achieved and developed for the engineering community. Geological and potamological (river) data combined with topographic/hydrographic surveys and geotechnical subsurface information have generated river movement predictions which have served as the basis for a rational approach to selection of drilled crossing geometry, i.e. horizontal length, entry and exit points, as well as penetration depth. This encompassed blending of historical/archival geological and potamological data with site/surface conditions plus predictions of instability, security, and longevity for existing and newly designed crossings. Additionally, definition of the subsurface conditions has advanced the state-of-the-art of trenchless construction technology via a better understanding of the interaction between the drilling process and various soil conditions, from soft clays and loose sands to dense gravel and rock. While the installation procedure has been developed by contractors using trial-and-error methods with emphasis on results rather than theory, Mr. Hair has fostered an outgrowth of technological design and application for over 80 horizontally directional drilled installations throughout the United States during the last eight years. Such development has resulted in directional drilling contractors and owners seeking his consultation in solving problems involved with river crossings. He has coauthored an article in the *Oil and Gas Journal* and presented such paper to an American Society of Civil Engineers Special Conference in Boston.

Mr. Hair is married to the former Nel-

wyn Hill of Gloster, Mississippi, and they have two daughters and two sons.

Mr. Hair's outstanding achievements in the "application of geological and geotechnical engineering principles"

make him a worthy recipient of the James M. Todd Technological Accomplishment Medal. The Louisiana Engineering Society is proud to honor Mr. Hair for his outstanding engineering achievements. LE

Calendar of Events

We invite all technical and professional organizations to submit their meeting dates for publication in the *Louisiana Engineer* to: Editor, P.O. Box 2683, Baton Rouge, LA 70821

February 19-25, 1989

"Engineers Week"-Theme:

"Engineers: Turning Ideas into Reality"

February 21, 1989

CEC/L Board of Governors Meeting

March 11, 1989

State MATHCOUNTS Competition, Baton Rouge, LA

March 17, 1989

LES Board of Direction Meeting, Monroe, LA

March 21, 1989

CEC/L Board of Governors Meeting

March 27-28, 1989

State Board of Registration Meeting, New Orleans, LA

April 15, 1989

NCEE Exams (PEs, EITs, LSS)

April 18, 1989

CEC/L Board of Governors Meeting

April 19-22, 1989

Louisiana Society of Professional Surveyors Annual Convention, Baton Rouge, LA

April 26-29, 1989

LES Awards Meeting, Holiday Inn, Covington, LA

April 29, 1989

LES Board of Direction Meeting, Covington, LA

May 12, 1989

National MATHCOUNTS Competition, Washington, D.C.

June 5-6, 1989

State Board of Registration Meeting, New Orleans, LA

July 23-30, 1989

NSPE Annual Meeting, Minneapolis, MN

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Joint Meeting Planned

The Annual Meeting of the Louisiana Society of Professional Engineers in Civil Service and the Louisiana Engineering Society Professional Engineers in Government Practice Division meeting will be held on Saturday, March 4, 1989, 10:00 a.m. - 6:00 p.m., at Ed's Place in Ossun, Louisiana. The guest speaker will be James W. Reeves, Ph.D., P.E., President of the Louisiana Engineering Society. A cajun luncheon and dance is scheduled following the business meeting. Reservations are required and inquiries should be made to (504) 379-1327 or (504) 379-1345.

Robert H. Boh, P.E., Chosen Chairman of Tulane Board

Robert H. Boh, P.E., President and Chief Executive Officer of Boh Brothers Construction Company, has been elected to a five-year term as Chairman of Tulane University's Board of Administrators.

Boh, a graduate of Tulane's School of Engineering, has been a Member of the Board since 1976. He has served as Vice Chairman of the Board and as Chairman of its finance committee.

The twenty-five member Board of Administrators of the Tulane Educational Fund is the governing body of the university.

Boh received his Bachelor of Science Degree in Civil Engineering in 1951 and a Master's Degree in the same field in 1953. He served as an instructor at the School of Engineering for two years before resigning to join Boh Brothers as design engineer in 1955. He has been President and CEO of Boh Brothers since 1967.

He is also a member of the Board of Directors of the Hibernia Corporation and Tidewater, Inc.

The new board chairman is well-known for his participation in Tulane and civic affairs.

At Tulane, in addition to his board service, he is a past president of the Board of Advisors of the School of Engineering and a member of the Green Wave Club. In 1982, he and his wife endowed the Catherine and Henry Boh Chair in Civil Engineering in honor of Boh's father and mother.

Boh was the 1985 Chairman of the Board of The Chamber/New Orleans and

the River Region, he has served on the executive committee of the Business Council and he has been a member of the boards of the Public Affairs Research Council, the Alton Ochsner Medical Foundation, International House and Junior Achievement. He also served as president of the Board of Trustees of the Academy of the Sacred Heart.

Boh is the recipient of many awards, including the 1978 Volunteer Activists Award, the 1980 Construction Industry Man of the Year Award, and the 1985 Outstanding Tulane Engineering Alumnus Award.

Thomas L. Jackson Installed as Vice President of the American Society of Civil Engineers

Thomas L. Jackson, P.E., a member of the Louisiana Engineering Society, was installed as Vice President, District 14, of the American Society of Civil Engineers (ASCE) on October 26 during the Society's Fall Convention in St. Louis, Missouri. Jackson is Executive Vice President and a member of the Board of Directors at Burk and Associates, Inc., a consulting engineering, planning and environmental firm located in New Orleans, Louisiana.

Since October, 1986, Jackson has served on ASCE's Board of Direction representing ASCE's District 14, consisting of Alabama, Arkansas, Louisiana, and Mississippi. As Vice President of District 14, he will serve a two-year term of office.

A Fellow of ASCE, Jackson served as President of the Louisiana Section from 1981-1982 and also held the positions of Vice President, Secretary-Treasurer, and Director. Jackson was Chairman of District 14 Council from 1984-1985 and served as Chairman of the Society's 1982 National Convention held in New Orleans.

A resident of Metairie, Louisiana, Jackson graduated from Tulane University with bachelor's and master's degrees in civil engineering.

John E. Ritter, P.E., Chosen to the LSU Hall of Distinction

John E. "Skip" Ritter, P.E., a Past President of the Louisiana Engineering Society, has been inducted into the Louisiana State University Hall of Distinction.

Ritter was selected from a group of nominees for his leadership in LSU

athletics, his contributions toward the well-being of LSU student athletes and financial contributions to the program.

Ritter has been an official statistician for LSU football since 1959 and was the official scorer for the LSU men's basketball from 1958 until 1987. He was also the official scorer for the women's basketball program from 1973-87.

A retired Exxon engineer of 50 years, Ritter served on numerous boards by appointment of the governor of Louisiana.

Ritter graduated from LSU in 1935 as valedictorian of the engineering school with a grade point average of 3.964. He has gathered numerous awards and respect for his civic work with the Kiwanis Club, at one time serving as governor of the Louisiana-Mississippi-West Tennessee Kiwanis International and he is a long-time volunteer for United Way. In 1986, Mr. Ritter was recognized by the Louisiana Engineering Society for his civic involvement and was presented the prestigious Andrew M. Lockett Award for Civic Activities.

George A. Heft, P.E., Named Outstanding Tulane Engineering Alum

George A. Heft, P.E., a member of the Louisiana Engineering Society, has been named 1988 Outstanding Alumnus of the Tulane University School of Engineering.

Heft, a pioneer in the use of prestressed concrete, received his Bachelor of Science Degree in Civil Engineering from Tulane in 1937 and a Master of Science Degree in 1940.

Heft, the principal in G. A. Heft and Company, is a founding member of the American Consulting Engineers Council and the Gulf Institute of Consulting Engineers. He has held various offices in both organizations. He is also a member of the Consulting Engineers Council of Louisiana.

A member of the Board of Advisors for the Tulane School of Engineering since 1969, Heft was design engineer for the City of New Orleans on the Union Station Project. Other engineering projects in the City of New Orleans with which Heft has been involved include the underpasses at Downman Road, Paris Avenue, Gentilly Boulevard, St. Bernard Avenue and North Broad and overpasses at South Broad and Elysian Fields. LE

ANNUAL REPORT

Louisiana State Board of Registration For
Professional Engineers and Land Surveyors
For 1988

Regular meetings of the Board were held in January, March, June, July, September and November.

The tabulation that follows indicates actions taken by the Board on applications for the registration of Professional Engineers and Land Surveyors and for the certification of Engineers-In-Training and Land Surveyors-In-Training.

Professional Engineers

Applications approved.....	231
Applications disapproved.....	177
Applications withdrawn.....	5

Land Surveyors

Applications approved.....	25
Applications disapproved.....	21
Applications withdrawn.....	0

Engineers-In-Training

Applications approved for certification.....	585
Applications disapproved.....	206

Land Surveyors-In-Training

Applications approved for certification.....	20
Applications disapproved.....	16

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, 1988:

Professional Engineers.....	15,167
Land Surveyors.....	2,515
Engineers-In-Training.....	4,570
Public Employees.....	3
Land Surveyors-In-Training.....	57

Below is a tabulation of the number of Professional Engineers registered in the various branches as of December 31, 1988. (Some persons are registered in more than one branch.)

Agricultural.....	298
Chemical.....	1,191
Civil.....	6,133
Electrical.....	2,303
Industrial.....	139
Mechanical.....	3,907
Metallurgical.....	36
Mining.....	38
Petroleum.....	1,384

A total of 1124 written examinations were administered in 1988. Of these, there were 719 examinations in the fundamentals of engineering, 27 in the fundamentals of land surveying, 323 in the principles and practice of engineering, 22 in the principles and practice of land surveying and 33 in the laws and procedures of land surveying in Louisiana. Engineering examinations were administered at examination centers in Baton Rouge, Lafayette, New Orleans and Ruston in April and October. On the same dates, land surveying examinations were administered in New Orleans.

Annual Report to the Governor

Dear Governor Roemer:

Pursuant to the provisions of Louisiana Revised Statute 37:691 B, I submit the report of the transactions of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors for the fiscal year 1988. A duly certified audit and financial statement showing the receipts and disbursements for the fiscal year ending June 30, 1989 will be sent to you at a later date.

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors was created by Act 73 of the Legislature of the State of Louisiana at the regular sessions of 1950. The Act delegates to the Board the duty of registering qualified persons as Professional Engineers and Land Surveyors, and charges the Board with the responsibility of enforcing the provisions concerning violations.

The members of the Board and the expiration dates of their appointment are as follows:

Francis C. Roy, August 24, 1989; Marion J. Chaney, November 21, 1989; Rodger D. Phelps, September 14, 1990; Sam L. Sullivan, August 2, 1991; Robert D. Fenner, July 31, 1992; Ara Arman, January 24, 1993; Malcolm L. Hurstell, July 31, 1993; Albert J. Dunn, February 18, 1994; Randall F. Barron, August 24, 1994; Coan J. Bueche, August 24, 1994;

At the annual meeting of the Board, held on January 25, 1989, the following officers were elected:

Robert D. Fenner, Chairman,
Ara Arman, Vice Chairman,
Sam L. Sullivan, Secretary.

Very truly yours,

Rodger D. Phelps
Chairman of the Board, 1988



**Paul L. Landry, P.E.,
Executive Secretary
Louisiana State Board of Registration for
Professional Engineers & Land Surveyors.**



Members of the Board

Louisiana Revised Statute 37:683 A specifies areas of professional practice for members of the Board. With reference to that section and in accordance with the Bylaws of the Board, the following list is presented:

Private Practice of Engineering:

Marion J. Chaney and
Robert D. Fenner

**Engineers in Government
Employment:**

Albert J. Dunn and Coan J. Bueche
Engineers Employed in Industry:
Malcolm J. Hurstall and Francis C. Roy

Engineers Employed in Education:
Ara Arman, Randall F. Barron and
Sam L. Sullivan

**Professional Engineer and Land
Surveyor Engaged in Land Sur-
veying:**

Robert D. Fenner

Professional Land Surveyor:

Rodger D. Phelps

Mr. Verdi Adam's term expired on January 7, 1988, and Governor Edwards appointed Mr. Albert J. Dunn as his replacement.

Mr. Arthur R. Theis' term expired on July 29, 1988, and you appointed Coan J. Bueche as his replacement.

Mr. H. L. Henry's term expired on July 31, 1988, and you appointed Mr. Randall F. Barron as his replacement.

On August 24, 1989, Mr. Francis C. Roy's term expires and on November 21, 1989, Mr. Marion J. Chaney's term expires. At least thirty (30) days prior to the expiration of their terms the President of the Louisiana Engineering Society will submit nominations to you for consideration.

BOARD MEETING NOTICE

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors will hold its regular meetings at 1055 St. Charles Avenue - Suite 415, New Orleans, La. 70130 on the following dates:

1989

Mar. 28	July 25
June 6	Sept. 26
	Nov. 14

Louisiana State Board of Registration For Professional Engineers and Land Surveyors

FEE SCHEDULE

Effective January, 1989

REGISTRANT TYPE	CERTIFICATE OF REGISTRATION AND CERTIFICATION BIENNIAL RENEWAL FEE	ADDITIONAL — LATE FEE	
		1ST 6 MONTHS	AFTER 6 MONTHS
PE, PLS or PE, PLS Firm	\$50.00	\$25.00	\$50.00
EIT or LSIT	\$25.00	\$12.50	\$25.00
PE & PLS or PE & PLS Firm	\$100.00	\$50.00	\$100.00

Effective July, 1989

Application or Reexamination

Professional Engineer Registration	\$100
Professional Land Surveyor Registration	\$100
Engineer-In-Training Certification*	\$50
Land Surveyor-In-Training Certification	\$50
Engineering Firm Certification	\$100
Land Surveyor Firm Certification	\$100
Professional Engineer Temporary Permit	\$100
Certificate Replacement	\$50
* Senior Students	\$30

Compendium of Louisiana and Federal Laws Relating to Land Surveying

The Board of Registration for Professional Engineers and Land Surveyors published a compendium of Louisiana and Federal Laws relating to land surveying in January 1988. A copy was mailed to all Land Surveyor registrants of the Board. Other Board registrants may obtain a free copy by submitting a written request.

The compendium will be revised as the laws regarding land surveying are changed. The Board solicits comments from users of this document so that improvements can be made. **LE**

The Board also has a limited supply of the 1988 Biennial Report (roster of active registrants) available to you at no cost.

MOVING?

Notify us if you are!!!

**Louisiana Engineering Society
P.O. Box 2683
Baton Rouge, LA 70821
THANKS!**

ACEC Adopts Political Involvement Policy Statement

The Board of Directors of the American Consulting Engineers Council approved and adopted the following policy statement on political involvement by ACEC members. The action was taken at the recent Fall Membership Conference which was held in Cincinnati, Ohio, in the latter part of October, 1988.

Position Statement on Political Involvement by ACEC Members

Background:

The cornerstone of our democracy is a free and open electoral process. Therefore, it is of the utmost importance that all our citizens participate in the electoral process by supporting candidates of their choice, by voting, and by running for office.

The substantial sums of money required to run effectively for public office are a threat to our electoral process. When one considers that the average Senate race costs \$3 million in 1986, but only \$.5 million in 1976, it is clear the trends are not favorable to reduced campaign costs. It is obvious that a significant effort is required to raise such funds which distracts elected officials from legislative duties and constituent services. The high cost and length of time required to run for elective office also deters some outstanding challengers.

Campaigns also last too long using the time and energy of public officials that might be better spent on legislation and resolving issues. Consequently, fundamental change is needed to shorten campaigns, to reduce the funds required to run for office and to shift the emphasis of campaigns from image to issues.

The purpose of this Position Paper is to provide guidance to ACEC members on campaign reform and campaign finance issues at all levels and to encourage the involvement of individuals, member firms and member organizations at the local level.

Position:

1. ACEC encourages its member firms to participate actively in the political process by urging its employees to vote, to volunteer to work in campaigns at all levels, to make campaign contributions in keeping with state

and federal laws and, where their interests so dictate, to seek public office. ACEC members should also offer technical expertise to legislative and executive elected officials.

2. ACEC encourages its member firms and their employees to support candidates who support a) the procurement of engineering and architectural services on the basis of qualifications, because it is in the best interest of our nation, and b) who are supportive of our position on important business issues such as tort reform.
3. ACEC believes that the cost of elections at all levels is too high. This discourages some potential candidates from seeking elective office. Consequently, we support the establishment of limits on the length of time during which money can be collected and spent on campaigns.
4. ACEC supports the concept of political action committees (PACs) at the state and federal levels. ACEC believes that citizens have a fundamental right to join together to support candidates at all levels of government who have the same or similar points of view, and whom the citizens believe will best represent their points of view. ACEC opposes any and all efforts at the state or federal level to erode the ability of citizens to join together through PACs or to prohibit the participation of PACs in the electoral process.
5. ACEC supports the enactment of state laws which set reasonable limits on and require full public disclosure of campaign contributions by individuals, corporations and political action committees at all levels of government. ACEC believes that current federal law adequately addresses disclosure and reporting of contributions by individuals, corporations and political action committees to candidates for federal offices.

ACEC recognizes that there are differences in campaign costs due to vast geographic and demographic differences across the country. ACEC encourages each state individually to set limits on campaign contributions based on the individual state's unique set of circumstances. Established limits should allow adequate participation by individuals, corporations

(where allowable) and political action committees in individual races at the state level. ACEC encourages Member Organizations to participate in the enactment of state laws dealing with election reform and to assist in protecting the rights of individuals, corporations and political action committees to participate in the election process at the state level.

6. ACEC is opposed to Consulting Engineers making contributions to gain favorable consideration for contracts for proposed projects.
7. ACEC is opposed to the public financing of elections at any level of government.
8. ACEC supports the development of federal and state disclosure and reporting guidelines to cover the uses to which left-over campaign fund balances and office holder accounts can be put.
9. ACEC encourages all of its member firms to develop a written policy as regards political participation (or involvement) and contributions.
10. ACEC will work with other organizations to implement this position statement and is willing to amend its position as such action is appropriate.

By having the positions cited herein adopted, ACEC believes that:

- A) The opportunities for citizens to become, and remain, active in the political process will be encouraged;
- B) the election process will become fairer;
- C) there will be more widespread interest in seeking public office;
- D) the cost of seeking office may be reduced; and
- E) our nation will thereby greatly benefit.

ACEC Offers Professional Development Seminars

ACEC has produced top quality educational opportunities to make your firm more productive and competitive. Many meetings are scheduled on consecutive dates to maximize your travel dollars. Attractive sites make the trips a reward for attendees. Join ACEC and learn to handle the hot issues in today's design firm environment.



Consulting Engineers Section Warren J. Wilder CEC/L Executive Director



Business of Design Consulting: What You Don't Learn in Design School

March 13-17, 1989

The Fairmont, New Orleans, Louisiana

Hotel Rate: \$95; For reservations

phone (504) 529-7111.

ACEC has designed this week-long course to fill the major business gaps in design school curricula and early E/A experience. Up-and-comers and old hands alike need this core group of business skills, such as marketing, finance, human resources, risk management, communications and contracting. This course eliminates unnecessary travel and the distracting pursuit of separate seminars across the country. Includes a complete set of ACEC's *Guidelines to Practice manuals* and EJCDC Forms of Agreement. This seminar is a must for aspiring middle managers and new principals.

FACULTY: George W. Barnes, Harpswell Engineering & Surveying, South Harpswell, ME; Don Ostrower, Atty. at Law, Lake Success, New York; Russell Chaney, DPIC Companies, Monterey, CA; Gary D'Angelo, Gary D'Angelo & Associates, Seattle WA; Charles M. McReynolds, Human Resources Consultant, Sierra Madre, CA; Stephen C. Felker, Marsh McClennan, St. Louis, MO; William F. Fanning, Design Management Consultants, Inc., Marietta, GA; Irving P. Cohen, Atty. at Law, Wilner & Scheiner, Washington, DC; William F. Peck, Technical Management Consultants Assoc., Atlanta, GA.

Planning For Success - Financial Management and Project Control

March 20, 1989

Hyatt Orlando, Kissimmee, Florida

Hotel Rate: \$110; For reservations phone (407) 396-1234.

Developing sound financial stewardship of your firm is not some mystical process; rather, it is the grasp and execution of efficient and effective management principles and practices. Learn how to make a substantial profit in *down* as well as *up* markets. The key is successful project management through the control of time, costs and design in quality. Learn how to establish fees and values, tie incentives to project profitability, deal successfully with clients, primes and sub-consultants. Learn to assure your business success.

PRESENTER: J. Howard Van Boerum, Van Boerum & Frank Associates, Inc., Salt Lake City, UT.

Managing Marketing, Bridging Opportunity and Innovation

March 21, 1989

Hyatt Orlando, Kissimmee, Florida

Hotel Rate: \$110; For reservations phone (407) 396-1234.

To be successful you need a solid, progressive marketing plan . . . one that will allow you to work calmly and effectively toward your goals. Discover what makes an excellent marketing strategy rise above common efforts. Learn how to incorporate new information into your strategies to create timely appeal and satisfy client needs and expectations today and tomorrow. Significant new data from ACEC's "Image/Awareness Study" will give you a competitive edge.

PRESENTER: David Rinderer, Practice Management Associates, Ltd., Newton, MA.

For more information and fees, contact ACEC Meetings and Conventions, 1015 15th St., N.W., Suite 802, Washington, D.C. 20005, (202) 347-7474. Talk to Susan Cambria.

Unique Law Enacted In Pennsylvania

Hailed by some and doubted by others, a new Pennsylvania statute offers what its proponents regard as a way for engineers and architects to avoid involvement in frivolous or unsubstantiated lawsuits. House Bill 1308, signed June 30, 1988 by Governor Bob Casey, provides for dismissal of actions for negligence against design professionals by having A/Es file "affidavits of noninvolvement."

An "affidavit of noninvolvement" is described in the new law as a written statement of facts which demonstrate that the designer of a project was misidentified or otherwise not involved with regard to the cause of injury or damages, and neither were his/her employees. The document must be signed by the A/E and sworn to before an officer of the state.

Covered professionals include individual architects, professional engineers, landscape architects and land surveyors licensed in Pennsylvania, as well as corporations organized to perform these professional services. Employees of the listed professionals, who are working on construction sites, are also covered.

Action against a design professional may, however, be reinstated if the court finds that an inaccurate affidavit was filed. Where such an affidavit was knowingly filed, juries will be instructed to award exemplary damages. All discovery taken prior to a reinstatement

of a charge, or where the construction design professional is later joined as a defendant, may be used as if the reinstated or joined defendant had participated fully in the action from the date of its filing.

CEC/Pennsylvania Executive Vice President John Van Natta has serious reservations regarding the new law. According to Van Natta, "We see the affidavit of noninvolvement as another expensive and time consuming step in the already clogged judicial process. Plaintiffs' attorneys are almost sure to challenge such affidavits in hopes of discrediting both the designer and his co-defendants."

Van Natta believes there is plenty of incentive for such challenges. "If, following objection, an affidavit is invalidated, the design professional will not only suffer the loss of exemplary damages, the rejection could also stigmatize his subsequent defense arguments." He went on to note, "We are cautioning our members against using the affidavit process until it has been successfully upheld in court."

William J. Kennedy, Counsel to the National Engineers Joint Contract Documents Committee (EJCDC), and a lawyer with the Philadelphia firm of Dechert, Price and Rhoads, agreed generally with Van Natta's analysis. Said Kennedy, "I see very little reason for this law. Defense attorneys have always been able (when their client has no responsibility or relationship to an alleged injury), to file a motion for summary judgment and accomplish the same thing; and the client doesn't risk exposure to reinstatement or the exemplary damages provision of the new statute."

"Of course," he added, "the fact this statute exists may sensitize some judges to frivolous suits and they will dismiss A/E defendants on the basis of affidavits of noninvolvement without hearing opposing arguments. Nevertheless, design professionals who go this route will do well to restrict their use of such affidavits to only those cases in which they can clearly demonstrate they had no involvement or responsibility for the act or condition which triggered the suit."

Lela Shultz, Executive Director of the Pennsylvania Society of Architects, told

Continued on page 20

LES Awards Meeting, April 26-29, 1989, Covington, Louisiana

General Program

Wednesday, April 26, 1989

11:00 a.m. - 5:00 p.m.	Registration
11:30 a.m. - 5:00 p.m.	Golf Tournament, Tchefuncte Country Club Dinner On Your Own

Thursday, April 27, 1989

8:00 a.m. - 5:00 p.m.	Registration
8:30 a.m. - 10:00 a.m.	Seminar: "Ethics and Professionalism" Billy Rentrop, P.E., Chairman, LES Ethics and Professional Conduct Committee
10:00 a.m. - 10:30 a.m.	Break
10:30 a.m. - 12:00 Noon	COMMITTEE MEETINGS Membership Young Engineers Engineering Education Scholarship Long Range Planning
12:00 Noon - 1:30 p.m.	Lunch - On Your Own
1:30 p.m. - 3:00 p.m.	COMMITTEE MEETINGS Executive Committee Liaison State Board of Registration Public Relations Inter-Society Relations Political Action Committee
3:00 p.m. - 3:30 p.m.	Break
3:30 p.m. - 5:30 p.m.	PRACTICE DIVISION MEETINGS Construction Education Government Industry Private Practice

6:30 p.m.

Cocktails and Dinner -
Bogue Falaya Park

Friday, April 28, 1989

8:00 a.m. - 12:00 Noon	Registration
8:30 a.m. - 10:00 a.m.	Seminar: "Professional Liability Insurance" Sidney and Wyatt Sanders of Alexander & Sanders Insurance Agency
10:00 a.m. - 10:30 a.m.	Break
10:00 a.m. - 3:00 p.m.	Council of Deans Meeting
10:30 a.m. - 12:00 Noon	COMMITTEE MEETINGS Legislative Ethics & Professional Conduct Constitution and Bylaws LES/NSPE Membership Task Force
12:15 p.m. - 2:00 p.m.	Luncheon - Speaker: Richard Pettigrew, P.E. NSPE Southwestern Regional Vice President
2:15 p.m. - 4:15 p.m.	Student Paper Presentations
4:00 p.m. - 5:00 p.m.	Louisiana Engineering Foundation
4:15 p.m. - 5:15 p.m.	LES Nominating Committee
6:30 p.m. - 7:30 p.m.	Cocktails (Cash Bar)
7:30 p.m.	Awards Banquet The awards program will include presentations by the State Board of Registration.

Saturday, April 29, 1989

8:00 a.m. - 10:00 a.m.	Breakfast and General Membership Meeting (Ladies and Men)
10:00 a.m.	LES Board of Direction Meeting

Spouses' Program

Wednesday, April 26, 1989

11:00 a.m. - 5:00 p.m.	Registration
11:30 a.m. - 5:00 p.m.	Golf Tournament, Tchefuncte Country Club Dinner On Your Own

Thursday, April 27, 1989

8:00 a.m. - 5:00 p.m.	Registration
8:00 a.m. - 10:00 a.m.	Hospitality Suite Open
10:00 a.m. - 11:15 a.m.	Historic Walking Tour
11:30 a.m. - 1:00 p.m.	The Jefferson House, Unique Gift Shop Luncheon - The Victorian Tea Room
1:00 p.m. - 3:00 p.m.	Lee Lane Shopping
6:30 p.m.	Cocktails and Dinner - Bogue Falaya Park

Friday, April 28, 1989

8:00 a.m. - 12:00 Noon	Registration
8:00 a.m. - 9:30 a.m.	Hospitality Suite Open
9:30 a.m. - 1:30 p.m.	Paddlewheel Tour of Tchefuncte River Luncheon at Friends on the Tchefuncte
6:30 p.m. - 7:30 p.m.	Cocktail Hour (Cash Bar)
7:30 p.m.	Awards Banquet

Saturday, April 29, 1989

8:00 a.m.	Hospitality Suite Open Program - To Be Announced
-----------	---

LES Sponsored Seminars for 1989

"Ethics and Professionalism"

"Gilbane Gold", a video produced by the NSPE Ethics Institute, will be shown as part of the seminar. Every engineer should be a part of this seminar.

"Professional Liability Insurance"

The seminar will address professional liability insurance and recent pertinent liability cases.

Join Us In Historic St. Tammany Parish

The LES Awards Meeting will be held in historic St. Tammany Parish which entered current world history in 1682 when La Salle took possession of the Mississippi Valley territories for France. During that time all of Southern Louisiana became a pawn in the colonization efforts of France, Spain and England.

St. Tammany, one of the Florida Parishes, was established in 1811. It was named after Chief Tamanend, a Delaware Chief of the seventeenth century, who during the Revolutionary War was adopted by his admirers as their Patron Saint.

The parish had a large Indian population at the time of its establishment and it was not until the middle of the eighteenth century that any whites settled west of the Pearl River. In October 1810, the Orleans Territory of the Louisiana Purchase became the State of Louisiana.

The Jefferson House and The Victorian Tea Room - The Jefferson House, a truly Acadian Home, was originally built in 1892, restored in 1973, to become one of the most authentic settings for a unique gift shop. The Jefferson House specializes in furniture, home accessories and gifts. From the time you pass through the wrought iron gate at Jefferson House until you leave you will be delighted. The grounds are beautiful. You half expect to see Renoir Monet sketching the gazebo or trying to catch the flickering light. Relax in the Gazebo, or on the patio or grounds, where special events take place throughout the year.

Across the patio from the main house is the charming small cottage, the Victorian Tea Room where high tea will be served.

Early settlement in the parish took place along the bayous and rivers running to Lake Pontchartrain. The settlers came primarily from the nearby French and Spanish sections of Louisiana and from Kentucky and Tennessee.

The present communities of Abita Springs and Lacombe both stand on former sites of Choctaw Indian villages. Madisonville, at the mouth of the Tchefuncte River, which served as a roadway to the interior of the parish, was founded in 1811. Covington, the site of the LES Awards Meeting, located on the Bogue Falaya River above its confluence with the Tchefuncte, was founded as Wharton in 1813. It was chartered in 1816 and renamed Covington in honor of General Leonard A. Covington, a hero of the War of 1812. It became the parish seat in 1829.

Come visit with us in Covington and enjoy the beautiful live oak trees, the spanish moss, and the beautiful thoroughbreds, quarter horses, Saddlebreds and Arabians.

**LES Awards Meeting
Registration
Holiday Inn — Covington, LA
April 26-29, 1989**

Name _____ P.E. YES _____ NO _____

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Chapter: _____

		No. Tickets	Amount
*PREPAID Discount Registration Fee	\$35.00	_____	_____
Registration Without Prepayment	\$50.00	_____	_____
**Daily Registration Fee	\$12.50	_____	_____
Wednesday Golf	\$35.00	_____	_____
Thursday Seminar	FREE***	_____	_____
Thursday Dinner	\$12.00	_____	_____
Friday Seminar	FREE***	_____	_____
Friday Luncheon	\$ 7.50	_____	_____
Friday Awards Banquet	\$12.50	_____	_____
Saturday Breakfast	\$ 7.50	_____	_____
Spouses			
Thursday - Tour & Luncheon	\$12.50	_____	_____
Friday - Paddlewheel Tour & Luncheon	\$25.00	_____	_____
Saturday Breakfast	\$ 7.50	_____	_____
TOTAL		=====	=====

*Prepaid Discount applies only if Registration and Payment is received one week prior to convention

**Daily Registration Fee is applicable for one day attendees only

***Seminar free with daily registration fee

☐ Payment Enclosed ☐ Will Pay at Registration Desk

MAKE CHECK PAYABLE TO LES

PLEASE NOTE: A PARTIAL REFUND WILL BE MADE IF CANCELLATION IS RECEIVED
FOUR DAYS PRIOR TO CONVENTION

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Louisiana Engineering Society
Holiday Inn - Covington, LA
April 26-29, 1989**

THIS FORM MUST BE RECEIVED BY APRIL 12, 1989

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(Last) (First)

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City, State _____ Zip _____ Tel. _____

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Highlights

Continued from page 5

American consulting engineering firms. The resolution originated out of concern that the balance of trade and international competitiveness of the U.S. continue to decline.

International Relations

NSPE is engaged in a joint effort with the National Council of Engineering Examiners (NCEE) and the Accreditation Board for Engineering and Technology (ABET) to work out issues of practice across the U.S./Canadian border with the Canadian Council of Professional Engineers. Those issues have been raised by the Free Trade Agreement. To better guide NSPE on such matters, the Board of Directors established the International Relations Committee as a standing committee via an addition to Bylaw 7. The duties of the committee will include reviewing all matters related to the practice of engineering across international borders, seeking full transportability to other nations of both state-issued PE licenses and ABET-accredited educational preparation, recommending appropriate NSPE contacts with professional en-

gineering organizations of other nations, and recommending appropriate criteria for involvement of engineers from other nations in NSPE and its programs.

International Members

Recognizing the expansion of markets and the opportunities for licensed engineers and professional societies on a worldwide basis, the Board adopted a resolution by the Michigan Society to open NSPE membership internationally. By amending Article V of the NSPE Constitution, an NSPE member is now defined as "a person holding a valid license or certificate of registration as a professional engineer, issued under the laws of any state, territory, possession or district of the United States or a province or territory of Canada; **or United Kingdom; or other foreign country;** or a retired engineer who obtained and retained the Member grade while in active practice in the profession until retirement."

Interprofessional Practice Issues

The Board directed the NSPE leadership to continue discussions with the American Institute of Architects on the issue of interprofessional practice. The Board also discussed the ongoing need to curtail attempts by other groups to limit

or encroach upon the practice of engineering.

NSPE Member Research

NSPE has engaged in extensive research of member attitudes. Preliminary results of that research were presented to the Board of Directors in Atlanta. Findings of the survey will be made available by the NSPE Research Committee later this spring.

Professional Employment Guidelines

The Board gave its approval to a third edition of guidelines intended to promote a satisfactory employer-employee working relationship for engineers. "The Guidelines for Professional Employment for Engineers and Scientists" are intended for use by employers in evaluating their own practices, by professional employees in evaluating their own responsibilities and those of their employers, and by new graduates and other employment seekers in evaluating their prospective employment posture.

Student Conference

More than 100 engineering students participated in the fourth annual NSPE student conference in Atlanta. The con-

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ference included a career awareness seminar, which featured selected speakers from each of the Society's five practice divisions. Students also had the opportunity for personal interaction with NSPE's national directors during a special breakfast. Another session focused on effective technical communications.

Future Meeting Sites

The NSPE Meeting Sites Selection Committee met in Atlanta and recommended the following sites for the two 1994 meetings of the Society: Winter Meeting, Tucson, Arizona; Annual Meeting, Kansas City, Mo. The Board of Directors approved the recommendations. LE

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LEF Retires \$75,000 Mortgage

Corporate existence of the Louisiana Engineering Foundation began on November 20, 1978. It was organized to promote the profession of engineering exclusively through educational and scientific means in the state of Louisiana.

The Internal Revenue Service granted LEF exemption from Federal income tax under section 501 (c) (3) on July 9, 1981.

On November 23, 1981 the property located at 1213 Nicholson Drive, Baton Rouge, consisting of a 3,181 square foot building together with 14,406 square feet of land was purchased by the Foundation for \$75,000 from Mr. Leo M. Odom. The appraised value at that time was \$185,500. In today's economy, the appraised value has decreased to \$95,000.

On December 14, 1988, the mortgage on the LEF property was **paid off**. This was made possible by contributions, Plan "A" participants, and rent income received from CEC/L and LES. Our only indebtedness is \$26,500 owed to Plan "A" participants. The Plan "A" program was inaugurated in August 1982 by re-

questing individuals and organizations to lend LEF \$1,000 at no interest with a guaranteed payback within five years.

The Foundation has progressed slowly. However, six (6) Fellowships have been awarded since 1982. These have been presented to students enrolled in a graduate program of engineering who have expressed a sincere desire to enter the teaching profession at the University level upon completion of his/her graduate education. The seven accredited engineering schools in Louisiana have been provided the rules and application forms for the 1988 award, which will be awarded prior to May 31, 1989.

In addition to the fellowships awarded, the Foundation has financially supported the MATHCOUNTS program sponsored in part by the Louisiana Engineering Society. MATHCOUNTS combines the efforts of education, business, government and the technological community to promote math excellence among junior high school students. MATHCOUNTS was developed as a

Continued on page 20

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Continued from page 19

positive and rewarding solution to reversing the current problem of math illiteracy. The program builds skills, promotes strategic problem-solving, and drills students in dealing with complex problems and hard-to-handle numbers, all a critical part of our technological society.

A future goal of the Louisiana Engineering Foundation is to provide a building complex which will house the Foundation and provide rental space for the Louisiana Engineering Society, the Consulting Engineers Council of Louisiana, the State Board of Registration, and other engineering organizations. Net income from these sources will provide a continuing flow of funds for scholarships, development programs, and ways to bring together engineers of all disciplines into a common meeting place.

Engineers of Louisiana have a rich heritage. The first organizational meet-

ing of the Louisiana Engineering Society was held on December 22, 1897, some 91 years ago. The purpose of the society formation was "for the professional improvement of the members and the advancement of the engineering profession." Since that time thousands of outstanding engineers have passed through the organization. The Louisiana Engineering Foundation grew out of that heritage and wants a landmark to honor the past, the present, and future of engineering in Louisiana.

The Foundation is planning to inaugurate a perpetual endowment program. A lot of us owe a lot to the engineering profession in Louisiana. Special gifts for special people are required to build ENDOWMENT. The reward for establishing ENDOWMENT is primarily, "the inner glow" that goes with being able to do something of real significance in one's lifetime. More will be forthcoming on this proposed program. Remember, you can insure the future of the Foundation with an endowment gift. LE

The Spec Sheet

Continued from page 15

ACEC that even though her group (and the Pennsylvania Society of Professional Engineers) supported the legislation, "We have cautioned our members to use extreme care in seeking an affidavit of noninvolvement. About the only time this process would do you any good is when you've been misidentified or confused with another firm that has the same name." Ms. Shultz also told *Liability and Litigation* that the new law was drafted by representatives of the Pennsylvania Trial Lawyers Association.

A copy of the law (which became effective on the date of its enactment), may be obtained by sending \$2.00 and a personalized, return address label to ACEC. Ask for document no. PA/1308.

Suite 802, 1015 Fifteenth Street, N.W., Washington, D.C. 20005. LE

(*Liability & Litigation*, Nov./Dec. '88 a publication by ACEC)

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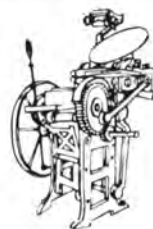
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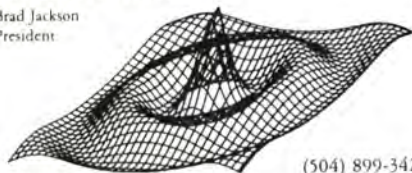
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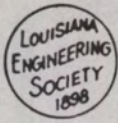
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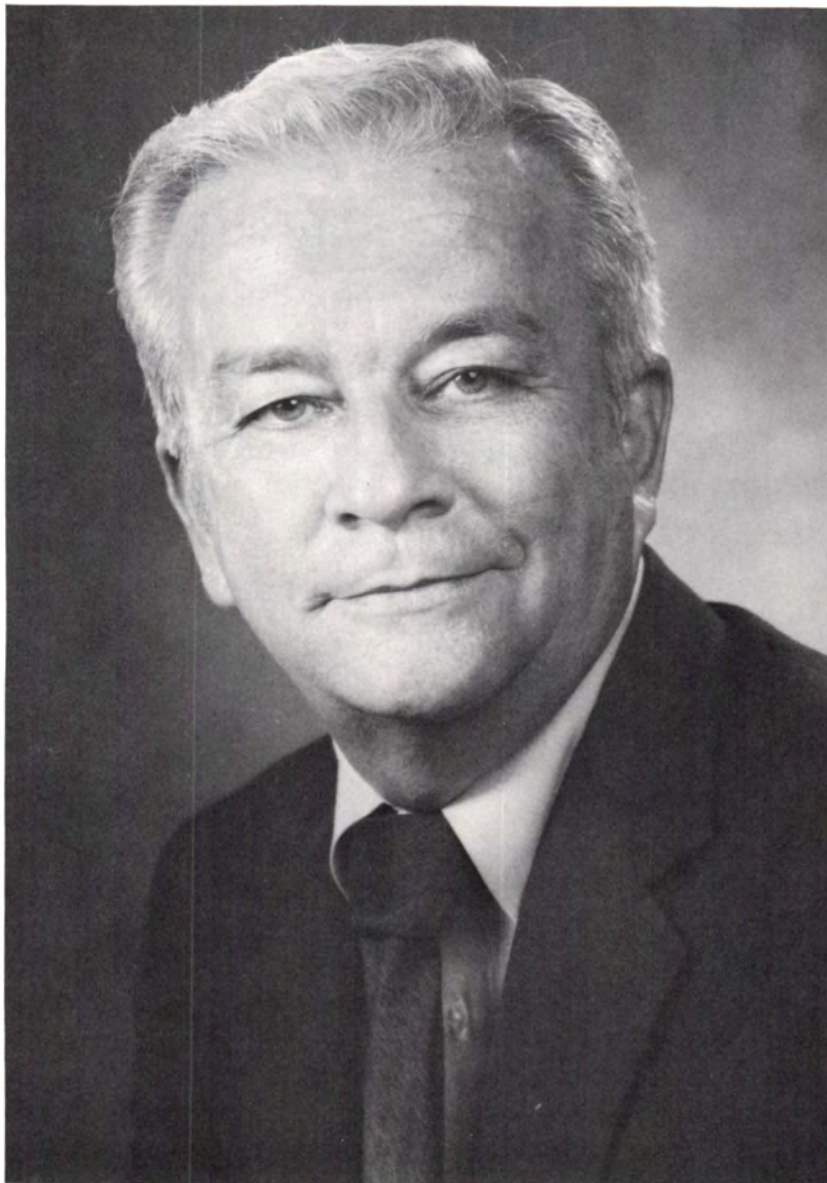
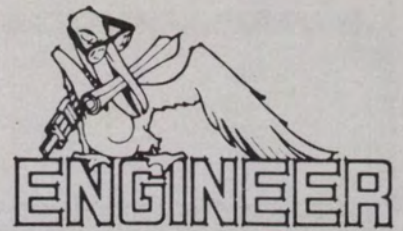
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ABOUT THE COVER

Robert D. Fenner, P.E./P.L.S., Chairman of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors, is pictured on this month's cover.

LOUISIANA ENGINEER

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The LOUISIANA ENGINEER is the official publication of the Louisiana Engineering Society. The LOUISIANA ENGINEER is 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 \$1.65 per year for engineers registered in Louisiana and non-registered members of the Louisiana Engineering Society. One dollar and sixty-five cents of each LES member's annual dues is set aside for six issues of the LOUISIANA ENGINEER. 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. ISSN : 0024-6794

Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318; 1213 Nicholson Drive, Baton Rouge, La.



James W. Reeves, Ph.D., P.E.
President
Louisiana Engineering Society

Problems or Opportunities?

Our L.E.S. chapters were very active in celebrating National Engineers' Week this year. The theme was "Turning Ideas into Reality." While it is time to celebrate, it is also time to act. In my talks at several functions around the State, I stressed two interrelated conditions which will seriously affect our profession and our country; the failing of our infrastructure and a developing shortage of engineers.

The infrastructure, which consists of our nation's bridges, roads, sewerage systems, water treatment facilities, public buildings and other public systems, is aging and deteriorating and desperately in need of inspection and revitalization to meet future needs. It is reported that nearly half of America's 575,000 bridges need replacement, repair or maintenance. Over 2,000 of the nation's 3.8 million miles of highways must be replaced each year. Because of leaky pipes, 15 gallons of fresh water are lost for every 100 gallons consumed, with some cities experiencing up to double this rate.

The television program, "60 Minutes", on February 19 presented the infrastructure problems in New York City. Overhead highways have collapsed. Cast-iron water mains, some installed about 1898, are rotting and flooding streets, basements and subways. The city has crews which they call water detectives trying to stay ahead of flooding by finding leaks early. Last Spring Mayor Koch closed the Williamson Suspension Bridge, which has not been painted in over 15 years, because the steel was disintegrating and hundreds of the suspension wires were broken. Ninety other bridges are in extreme disrepair. They have been struggling to overcome daily car fires in the 600-mile-subway system and the uncertain operation of 70-year-old gears and valves in the two huge, aging underground water tunnels. An estimated \$50 billion will be needed over the next ten years to overcome these problems—and that is just for New York City.

Maintenance bills can be delayed but not cancelled, and often delaying dramatically increases the cost. We are familiar

with the problems in our State with bridges, highways and the environment, among others. We will be voting on a fiscal reform bill soon which our legislature has passed. The L.E.S. Board of Direction has agreed to take a public position in support of this legislation. Even though it may not be perfect, and many could criticize various parts, passage is very important to moving our State forward. I believe that if you will consider the facts very carefully, you also will join in support of this bill.

Addressing these infrastructure problems and improving our country's ability to compete in the international markets will create an increasing demand for engineering talent. Demographic studies indicate that the pool of college-age students is decreasing and won't bottom out for several years; consequently, engineering enrollments in Louisiana and nationwide are decreasing. The National Science Foundation has predicted that the number of baccalaureates in science and engineering will fall short of demand by 45,000 by 1996 and by several hundred thousand in the next twenty years.

Through its many programs, such as scholarships and MATHCOUNTS, L.E.S. is informing young people of opportunities in our profession. Your help is needed in this effort. As our comic strip philosopher Peanuts said, "We are surrounded by insurmountable opportunities."

The L.E.S. Board of Direction has also taken a position regarding the various plans for the integration of higher education in Louisiana. We transmitted to the Special Master, Dr. Paul R. Verkiul, our support for the plan submitted by the Governor and our opposition for the other plans which would attempt to move established engineering programs to other universities. Many years are required to develop excellence in faculty, curricula, facilities, laboratories, research programs and industrial contacts. Other states have experienced catastrophic results in attempting to move engineering programs. National accreditation of such transferred programs certainly would be in immediate jeopardy. **LE**

LES Board of Direction Meeting Highlights

October 1988 Meeting

The October meeting was held in Alexandria, LA with twenty-two board members, three guests and the LES staff present.

1. The September financial statement was accepted subject to the annual audit.
2. The 1989-90 budget of \$161,991 was adopted.
3. The Membership Report ending September 30, 1988, was presented to the Board. Only 33% of the membership quota for the 1987-88 administrative year was achieved. An incentive program for the winning chapter was presented to the Board for consideration. Action was deferred to the December Board Meeting. A resolution requesting that a task force be appointed to undertake the issue of continuing professional education for registration renewal was approved. A task force will be appointed by President Reeves.

A membership contest winner was not named because no chapter reached their quota. A motion was approved for the Membership Committee to establish a program for recruitment and retention that would be equitable to all chapters.

4. A motion was approved for the Chairmen of the Membership Committee, the Public Relations Committee and the Long Range Planning Committee to be appointed as a task force to formulate a survey document to the membership and that the results be reported to the April Board of Direction Meeting.

5. A task force was appointed to monitor the hearings in regard to Higher Education in Louisiana.

6. The Attorney General's office has assigned an attorney to review the facts submitted to his office regarding the appointment and non-confirmation by the Senate on a member named to the State Board of Registration.

7. A revision to the LES Bylaws to establish an Auxiliary Advisory Committee was accepted by the Board and referred to the Constitution and Bylaws Committee for a recommendation to the LES Board of Direction.

8. Approval was given for the Executive Director to continue preparing the *Louisiana Engineer* magazine without the assistance of an outside consultant.

9. The Engineering Education Committee requested that the LES Board of Direction urge the Council of Deans to have the initials "P.E." added to the name of all faculty members, who are Registered Professional Engineers in the State of Louisiana, to all university docu-

ments, publications, and literature. The Board agreed and President Reeves will write a letter to the Deans of the Engineering Colleges.

December 1988 Meeting

The December meeting was held in Baton Rouge, LA with twenty-two board members, seven guests, and the LES staff present.

1. A presentation was made to the Board by the President of the Louisiana Society of Professional Surveyors. The Surveyors are concerned about the 9th member position on the State Board of Registration, that being a Registered Civil Engineer engaged in land surveying. He requested a joint meeting of the Surveyors and the LES Liaison Committee to the State Board of Registration. A meeting will be arranged to address the issue.

2. The October and November financial statements were accepted subject to the annual audit.

3. The Honors and Awards Committee presented the nominees for the 1989 LES awards. The nominees were approved by the Board. Awards will be presented on April 28, 1989, in Covington, LA.

4. Rules for the Membership Recruitment Contest and the Membership Net Growth Contest were presented to the Board noting that a chapter would not have to achieve 100% of quota to win the Membership Recruitment Contest. The rules were amended and approved. The Membership Committee determined the membership quota formula to be fair and equitable to all chapters and does not recommend a change to the approved formula.

5. A proposed membership brochure was presented for the Board's consideration. The Membership Committee was authorized to continue developing the brochure and that engineering firms be contacted to sponsor the inserts.

6. A draft of the proposed membership survey was presented. The objective of the survey is to obtain the perception of the membership regarding the image, goals and performance of the professional organization. The survey is to be conducted at the chapter level.

7. The Task Force on Continuing Education is seeking information from states which require continuing education for registration renewal.

8. A contribution was approved for the APRIL Association, an association formed to oppose administrative bills in

the last legislative session that effected associations and licensing boards.

9. The Board voted to support proposed changes to the registration law as requested by the State Board of Registration.

10. The Board reviewed a memorandum to all engineering firms doing work with the DOTD advising that DOTD will no longer be allowed to issue permits for buried facilities within DOTD right-of-ways, with the exception of crossings, due to Act 923 passed in the last legislative session. President Reeves will request that DOTD reconsider their actions until appropriate legislation can be undertaken to correct the problem and that the Department continue issuing permits under the prior policy.

11. The Board approved the incorporation of two additions to the "LES Guidelines for Filling Vacancies on the State Board of Registration": (1) incorporation of the candidate questionnaire as a requirement for each nominee recommended for possible selection; and, (2) that the guideline for disciplines also include priority for an additional engineer board member who is actively engaged in land surveying when the Board of Registration is constituted with only one member who meets the criteria.

12. A Professional Policy on Political Campaign Contributions will be on the NSPE Winter Meeting agenda in January. The Professional Policy by NSPE advocates that in addition to State Ethics and Election Commissions being empowered to do certain things that State Licensing Boards will be empowered to require at the time of licensure issuance and renewal, a written certification by each licensee, under penalty of perjury, that they have complied with all applicable campaign finance laws and rules. The policy further advocates that State Licensing Boards be empowered to establish penalties and take appropriate enforcement action against parties which fail to follow the requirements of the laws and rules promulgated by each licensing board. A motion was approved to request the State Board of Registration to draft appropriate changes to the registration law giving the Board the power to promulgate laws and rules.

13. President Reeves will appoint several members of the Past President's Council to assist the Society in procuring additional funds/contributions for the MATHCOUNTS Program and/or the JETS Program and/or the Scholarship Program. **LE**

World's Largest Prefabricated Power Plant Takes Big Step Toward Completion

by Sonya Forte Duhé



Aerial view of the Sidney A. Murray, Jr. Hydroelectric Station. The plant site is located 40 miles south of Vidalia, Louisiana, near the Old River Control Structure. After completion, Louisiana Highway 15 will be re-routed across the power channel by a bridge incorporated on top of the plant structure.

The world's largest prefabricated power plant structure was christened April 8, at Avondale Industries Inc. in New Orleans. The 456-foot-wide, 144-foot-deep, and 123-foot-high structure, named the Merrimac, is scheduled to be towed later this month more than 200 miles up the Mississippi River and locked in place at the Sidney A. Murray, Jr., Hydroelectric Station 40 miles south of Vidalia, Louisiana, on the west side of the Mississippi River. The plant is scheduled to begin producing electricity in mid-1990.

"This is the first hydroelectric power plant to be built in Louisiana," said Albert Bossier, Jr., Chairman of the Board and Chief Executive Officer of Avondale Industries, Inc. "This is a world-class project that would impress anyone, anywhere."

Keynote speaker at the christening, U.S. Senator J. Bennett Johnston, Jr., D-LA., long a proponent of alternative energy sources, cited the "sticktoitiveness and inspiration" of those involved with the project. Johnston called the power plant, "The nicest made in Louisiana package he had ever seen."

In the late 1970's, the town of Vidalia was faced with rapidly escalating prices for electricity. Then Mayor Sidney A. Murray, Jr., asked the Baton Rouge engineering firm of Forte and Tablada, Inc., for help.

"I had looked at the river all my life. I knew there must be a way to use it," said Murray. "Vidalia needed new sources of energy. Petroleum-generated sources were ruled out and fuel was cost-prohibitive at the time because of inflated prices during the oil embargo. There had to be another answer."

The response came from J. B. Lancaster, Jr., P.E., President of Forte and Tablada and other specialists who were convinced that hydroelectricity, a renewable and clean form of energy, was a viable option and could solve Vidalia's energy problem.

"Many preliminary studies were made before the ideal location for the plant site was chosen—a spot where the Mississippi and the Red/Atchafalaya Rivers are 3 miles apart and nearly parallel in a North-South direction," said Lancaster, who is the Project Manager. "The plant is designed to use a portion of the water diverted from the Mississippi River to the

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Red/Atchafalaya Rivers at the U.S. Army Corps of Engineers' Old River Control Structure."

"We were very excited about meeting the challenge of building the first hydroelectric power plant on the lower Mississippi River," said Vincent A. Forte, P.E., Chairman of the Board of Forte and Tablada, the firm that serves as project engineer. "That natural resource has always been a way of life for the Delta town but would now provide a new source of energy for Vidalia and the surrounding area."

The Federal Energy Regulatory Commission licensed the plant in 1982. At the christening ceremony, Chairman of the F.E.R.C., Martha Heese, told the crowd of more than 1,000, "Upon completion, the Sidney A. Murray, Jr. Hydroelectric Station will save 850,000 barrels of oil a year."

Nearly three years after licensing, construction began on the \$550 million project. "This hydropower plant involves the effort of 14 countries and 20 states," said Bossier. "It has already brought over 2,000 jobs and \$150 million to Louisiana."

The plant is being built at three different sites at the same time, said Richard Albosta, President of EBASCO Services Incorporated, the general contractor for the project. "Because of this innovative and unique engineering process, we

anticipate finishing the project on schedule and within budget." Albosta pointed out that no state or federal funding was used for the project. "This was accomplished without a cent of taxpayer money."

At the plant site, 14,000,000 cubic yards of earth has been excavated. 165,000 cubic yards of concrete and 155,000,000 pounds of rebar have been used for the foundation. The maximum discharge of water will be 775 million gallons per minute.

The Prefabricated Plant Structure (PPS), which will be towed from Avondale to the site, weighs 24,000 tons. The PPS is so large that it will have to be partially submerged to pass under the U.S. Highway 190 bridge over the Mississippi River at Baton Rouge. The structure will weigh more than 275,000 tons when set in concrete at the plant site.

Eight bulb units, developed by European engineers, will be used to generate power at the Sidney A. Murray, Jr., Hydroelectric Station. Placed horizontally beneath the water, rather than in the conventional vertical position, each bulb has a runner diameter of 27 feet. These runners are solid stainless steel and combined with the hub will weigh approximately 100 tons.

The bulb units are uniquely designed to meet the special requirements of the particular site chosen for the project,

where the available head averages only 16 feet.

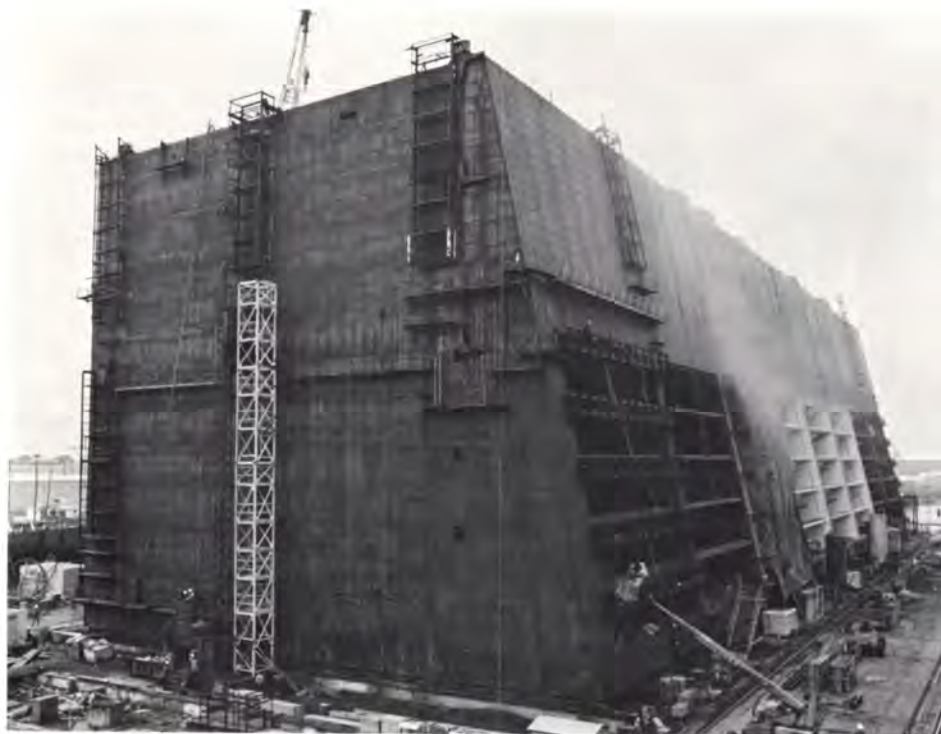
Because of the low head and large dimensions, the turbine speed will be only 52 rpm. The generators, however, attached to the runner units by planetary step-up gears, will have a speed of 600 rpm.

Each bulb will have a capacity of 24 MW, giving the plant an installed capacity of 192 MW. The average yearly production will be approximately 800 Gwh — enough electricity to supply a city of 200,000 people!

Co-licensees for the project are the Town of Vidalia and the Vidalia Old River Hydroelectric Partnership. The partnership's managing partner is a wholly-owned subsidiary of the Merrimac Corporation. The projects' limited partner is Dominion Capital, a subsidiary of Dominion Resources.

When completed in 1990, Vidalia will purchase 10% of the electricity from the plant. Louisiana Power and Light has agreed to purchase the remaining 90%. The hydroelectric station has a life expectancy of over 100 years.

"This plant is more than just metal and concrete," said Thomas B. Pickens, III, Chairman and Chief Executive Officer of Merrimac Inc., "It's a credit to the people of Louisiana and their entrepreneurial and innovative spirit." **LE**



The World's Largest Prefabricated Plant Structure (PPS) - Avondale Industries, Inc. The 24,000 PPS is scheduled to be towed later this month more than 200 miles up the Mississippi River and locked into place at the Sidney A. Murray, Jr. Hydroelectric Station. The structure is so large that it will have to be partially submerged to pass under the U.S. Highway 190 bridge over the Mississippi River at Baton Rouge.

ACEC's 1989 Legislative Program - An Overview

The American Consulting Engineers Council, Washington, D.C., has announced its 1989 Legislative program to the Member Organizations. It is broken down into Business Health Issues, Federal Market Issues (Pending), and Federal Market Issues (Completed).

I. Business Health Issues:

Federal Budget:

Reform of the federal budget process and reduction of the federal budget and its impact and influence on the U.S. economy are essential to our continued economic growth and viability. ACEC has submitted testimony to the National Economic Commission in support of reductions in many sectors of the budget, as well as privatization, creation of a capital budget, establishment of a bi-annual budget, trust fund integrity and private financing as some of the principles on which budget reform can be implemented. In addition, ACEC opposes any increase in the gas tax for deficit reduction purposes.

Tax Reform:

Congress made major changes in the U.S. tax code as part of a massive new deficit reduction law - the 1987 Budget Reconciliation Act and then again in 1988 when passing the Tax Technical Corrections Act. A number of provisions in the bills impact consulting engineers including allowing use of cash accounting, permitting payment of taxes on a fiscal year basis, continuing Section 1706 regarding independent contractors and denying use of graduated rates for certain personal service corporations, including engineering firms. It is likely Congress will again consider some sort of deficit reduction/tax increase bill during 1989.

Parental Leave:

ACEC opposes legislation which would mandate employers to provide unpaid parental leave upon the birth or adoption of a child or require companies to provide certain health benefits. We believe it is not an appropriate function for government to mandate employee benefits.

Mandated Health Benefits:

ACEC strongly opposes mandated health benefits legislation which would require employers to provide certain levels of health insurance for all or most employees. We also oppose any legislation which would establish regional insurance carriers because such a requirement could put most association sponsored insurance programs, including ACEC's, out of business. Such legislation would impose new costs and deny flexibility for firms that already provide health benefits.

High Risk Occupational Disease Notification:

Legislation which would create a new federal program to identify and notify worker populations at risk of contracting disease due to exposure to hazardous substances in the workplace and would also mandate employer-funded programs of medical screening for notified workers was set aside by Congress in 1988, but is expected to be re-introduced in the new Congress. ACEC opposes this type of legislation because it is duplicative of existing federal laws and regulations, it mandates employee health benefits and it would increase employer liability.

Liability Reform:

ACEC strongly supports the U.S. Congress' involvement in liability reform, particularly in the areas of abolishing joint and several liability and the setting of negligence standards for professional liability lawsuits. In particular, we support legislation expected to be introduced in the 101st Congress by Representative Don Ritter (R-PA) which will address these issues. We are concurrently lobbying for similar legislation on the state level.

II. Federal Market Issues - Pending:

Construction Safety:

S. 2518 and H.R. 4856, as originally proposed during 1988, would require all construction projects to be under the direct supervision of a pro-

fessional E/A registered in the state where the project is located. The E/A would also be required to issue, sign and seal all permits, review all project procedures, and verify the design of structure drawings and alterations even if he were not the project A/E. While ACEC strongly advocates jobsite safety, we would continue to oppose such legislation, if reintroduced, not only because of the liability questions it poses, but, more importantly because we do not believe E/A's are the most qualified party to assume such a major responsibility for worker safety. We are also concerned about changes to traditional contractual relationships among owners, contractors and engineer-architects, especially if such changes do not in fact enhance jobsite safety.

Clean Air Act:

Congress voted as part of the FY'88 Continuing Resolution to postpone until August 31, 1988 economic sanctions against metropolitan areas not in compliance with ozone and carbon monoxide standards. Affected areas face construction moratoria and a freeze on highway/sewer construction grants. Congress failed to approve amendments to the Act and to further extend the current deadline during its 1988 session and therefore will have to address this issue in the 101st Congress. ACEC believes any economic sanctions in proposed legislation should be strictly air-related, not ones which affect sewage-treatment or highway funds which have been legislated and passed separately into law.

Gas Tax:

ACEC opposes any efforts to increase the gas user fee for deficit reduction purposes. We have endorsed H. Res 41 a legislative effort to oppose such an increase. We believe the gas user fee should be used exclusively for highway and transit construction and rehabilitation.

Infrastructure Financing:

Investment in quality infrastructure is essential to national and local funds, privatization and technological innovations to improve productivity. We are promoting the infra-



Consulting Engineers Section
Warren J. Wilder
CEC/L Executive Director



structure issue through our participation in the Rebuild America Coalition.

Consultant Reform:

Efforts were made in the 100th Congress by Senator Pryor (D-AR) to reduce government contracts going to "consultants" and to require "consultants" to register and provide detailed information to all federal agencies with which they do business. ACEC was successful in dissuading Congress from legislatively mandating registration. We will continue to pursue this issue in the new Congress, seeking to assure that in any consultant reform legislation it may consider, Congress distinguishes between marketing consultants and A/Es who perform technical services.

Campaign Finance Reform:

Although ACEC supports some form of campaign reform in order to limit the tremendous cost of congressional campaigns, we oppose taxpayer financing of elections and restrictions on the amount of contributions a candidate can receive from PACs.

Contracting Out:

In general, ACEC supports legislation promoting increased contracting out of government services and restricting agencies with excess engineering capacity from competing for work with private firms. A number of contracting out bills were introduced in the 100th Congress but none were passed. ACEC will urge Congress to revisit this issue in 1989.

III. Federal Market Issues - Completed

Small Business Set-Asides:

ACEC strongly supported enactment of Title VII of P.L. 100-656 which establishes a test/pilot program to determine the potential of small businesses in the A/E industry to win contracts in the open market. ACEC believes this program will help truly small firms while providing a larger number of projects which other firms may compete for. Another key provision of Title VII is a new standard definition of A/E services that more accurately de-

scribes the types of services which must be secured using qualifications-based procurement.

Reauthorization of the Office of Federal Procurement Policy (OFPP):

OFPP is the body set up to oversee the procurement policy of the federal government. It was reauthorized in late 1988. ACEC supported passage of P.L. 100-679 which will grant OFPP regulatory authority, create a single procurement council and clarify the definition of A/E services.

Prompt Pay:

ACEC supported the adoption of legislation (P.L. 100-496) to amend the Prompt Pay Act of 1982. The new law will eliminate the government's 15-day grace period, strengthen requirements for interest to be paid on late payments and provide prompt pay for subcontractors.

Trade Policy:

The Omnibus Trade bill passed the House on July 13, 1988, the Senate on August 3, 1988 and was signed by President Reagan on August 23, 1988. It will extend presidential authority to negotiate trade

agreements abroad, require the president to retaliate against certain unfair trade practices or explain why he does not, expand benefits to firms and workers harmed by imports and other dislocations, streamline control on exports of high technology to Soviet-bloc countries and beef up export promotion, education and training programs.

Consulting Engineers Council of Louisiana, Inc. will be announcing its own legislative package for the upcoming Regular Session which will begin in mid-April.

One action will be the introduction of a Senate Concurrent Resolution which, if passed, will direct all state agencies to obtain the best qualified firms to perform professional engineering services regardless of the domicile of the firm, except in cases where the nonresident's state has preference laws. Then those engineers will be considered to the same extent as Louisiana engineers are considered in those states.

Since the last legislative session, Mississippi has recently passed its "even steven" bill, which treats all engineers equally except when the nonresident engineer comes from a state that has preference laws, resolutions, or policies. **LE**

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Engineers
Planners
Economists
Scientists

Plan Stamping — A No No!

Who is permitted by Louisiana Law and Rules of the Board to sign and seal engineering or land surveying work?

Engineers (which by Louisiana Revised Statute 37:682 (4) is defined as only professional engineers) are the only ones who may sign and seal engineering work as defined by Louisiana Revised Statute 37:682 (8).

Land Surveyors (which by Louisiana Revised Statute 37:682 (6) means only professional land surveyors) are the only ones who may sign and seal land surveying work as defined by Louisiana Revised Statute 37:682 (9).

Title 46, Part LXI, Subpart 1, Section 1701.E furthermore states "the seal and signature shall be used by professional engineer or professional land surveyor registrants only when the work being sealed was performed under the registrant's complete direction and control."

The stamping or sealing of plans or surveys which were not done by professional engineers or professional land surveyors or under the registrants complete direction and control is a violation of the Board rules. Registrants of the Board who do sign and seal plans which were not done under their complete direction and control are taking a high risk of being called upon for a hearing before the Board. This is not a threat but a sincere word of caution to all professional registrants.

Report of Disciplinary Action

On July 25, 1988, the Board conducted a hearing regarding charges filed by a Louisiana registered professional land surveyor and by the Board alleging that Mr. Fred Morales, who is licensed by the Board as a professional engineer in civil engineering and a professional land surveyor, may have been guilty of gross negligence and/or misconduct in the practice of land surveying, a violation of Louisiana Revised Statute 37:698 (A) (2) and (5) and the Rules of Professional Conduct for Professional Engineers and Land Surveyors. The charges concerned

Mr. Morales' surveying of and plat of survey for the Woodland Springs Subdivision, Unit 1, Grambling, Louisiana in May of 1982.

The Board issued its Decision and Order and on August 17, 1988, Mr. Morales requested a rehearing.

On January 25, 1989, after a thorough review of Mr. Morales' request for rehearing, an agreement was reached to conclude the proceeding without further delay and expense, while yet protecting the interests of the people of the State of Louisiana. Mr. Morales and the Board therefore entered into a Consent Order, in which Mr. Morales voluntarily consented to the issuance of an amended Order as follows:

- (1) Mr. Morales' Louisiana land surveying license, Number 02758, is hereby suspended for a period of two (2) years.
- (2) Any violation of the terms and conditions of this Consent Order shall be grounds for the Louisiana State Board of Registration for Professional Engineers and Land Surveyors to immediately file a complaint with the respective court or agency having jurisdictional responsibility.
- (3) This Consent Order shall become effective upon its being signed by Mr. Morales and shall become an amendment to the original Decision and Order issued in this matter by the Board on July 26, 1988.

Mr. Morales may not offer to provide or provide land surveying services in Louisiana, nor represent himself as a Louisiana Professional Land Surveyor in any advertisement, business card, letterhead, business stationery and professional and personal activities, until the expiration of the two year suspension period.

Report of Disciplinary Action

On January 2, 1989 the Board and Jack D. Gillum, who is a resident of Westminster, Colorado and a Registered Professional Engineer, Number 18360, entered into a Consent Order in which Mr. Gillum voluntarily waived his right to a

hearing before the Board and to other administrative remedies, and consented to the revocation of his Louisiana license. Mr. Gillum neither admitted nor denied the truth of the charges alleged by the Board.

This action followed formal charges preferred by the Board on November 20, 1988, pursuant to Section 37:698 (A) (6) of the Louisiana Revised Statutes. This Section authorizes the Board to take disciplinary action against any registrant or certificate holder who has had his license revoked by the licensing authority of another state, if the reason for such action by the other authority was recognized by the Louisiana Board as grounds for disciplinary action at the time the action was taken. The Board's action was based upon a Consent Order, dated July 21, 1988, entered into by Mr. Gillum and the Texas State Board of Registration for Professional Engineers. This Order revoked the Texas Professional Engineering license of Mr. Gillum based, *inter alia*, on the action of the Missouri Board of Architects, Professional Engineers and Land Surveyors revoking Mr. Gillum's engineering registration on January 22, 1986. The Missouri action was based upon its findings of gross negligence, misconduct and unprofessional conduct in connection with Mr. Gillum's design of the second and fourth floor walkways of the Hyatt Regency Hotel in Kansas City, Missouri, which walkways collapsed on July 17, 1981 and fell to the floor of the main lobby killing 114 people and injuring at least 168 others.

In the Consent Order with the Louisiana Board, Mr. Gillum further agreed not to apply for registration in the State of Louisiana for a period of five years from the effective date of the Consent Order and to return any and all current indicia of Louisiana licensure within ten (10) days of the effective date of the Order.

Any violation of the terms and conditions of the Consent Order shall constitute grounds for the Louisiana State Board of Registration for Professional Engineers and Land Surveyors to immediately file a complaint with the appropriate court or governmental agency. LE



**Paul L. Landry, P.E.,
Executive Secretary
Louisiana State Board of Registration for
Professional Engineers & Land Surveyors.**



1989 - Board Members and Staff

Back Row: Rodger D. Phelps, Albert J. Dunn, Coan J. Bueche, Francis C. Roy. Front Row: Paul L. Landry, Randall F. Barron, Robert D. Fenner, Chairman, Sam L. Sullivan, Secretary Marion J. Chaney, Malcolm L. Hurstall. Absent: Ara Arman, Vice Chairman, Benjamin S. Harrison, Board Investigator.

EXAMINATION SCHEDULE and APPLICATION DEADLINE DATES

EXAMINATION	SPRING		FALL	
	Application Deadline Date	Examination Date	Application Deadline Date	Examination Date
Fundamentals of Engineering Examination (8 hrs.)	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Principles and Practice Engineering (8 hrs.) Civil (Including Structural & Sanitary), Mechanical, Chemical, & Electrical	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Agricultural, Industrial, Metallurgical, Mining & Petroleum	NOT AVAILABLE		Aug. 1, 1989	Oct. 28, 1989
Fundamentals of Land Surveying Examination (8 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Principles and Practices of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Laws and Procedures of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	NOT AVAILABLE	

Apply at least six to eight months prior to an examination. Board approval must be given for anyone to be scheduled for an examination.

The applicant and the Board depend upon information provided by third parties in the processing of an application, therefore no assurance can be given that one will be scheduled for a specific examination.

Application Deadline date means that an application **must** be postmarked prior to or on the date specified so as to be given **consideration** for the examination. The Board may schedule an applicant for an examination later than that requested by the applicant. The Board cannot guarantee that the applicant will be scheduled for the examination initially requested.

BOARD MEETING NOTICE

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors will hold its regular meetings at 1055 St. Charles Avenue - Suite 415, New Orleans, La. 70130 on the following dates:

1989

June 6
July 25

Sept. 26
Nov. 14

NEW REGISTRANTS Of State Board

AGRICULTURAL

Carl E. Nuzman
Silver Springs, KS

CIVIL

Thomas Butler
Jacksonville, FL
Frederick J. Campana
Missouri City, TX
Robert E. Coleman
Monroe, CT
Steve R. Commander
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Sullivan, MO
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Joe B. Hutcherson, III
Hixson, TN
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Katy, TX
Michael J. Wass
Orlando, FL
Charles A. Whitaker
Norcross, GA
Osama Zaben
Palatine, IL
Tuncer A. Arikol
Baton Rouge, LA
Brian K. Barient
Baton Rouge, LA
Barry A. Benedict
Ruston, LA
Steven P. Breeding
Houma, LA
Rodney J. Choate
Alexandria, LA
Lisa F. Cookmeyer
Metairie, LA
Rhett A. Desselle
Marksville, LA
Ralph J. Eppheimer
Metairie, LA
Ali R. Fathi
New Orleans, LA
Gregory L. Goodman
Baton Rouge, LA
Douglas J. Gremillion
Baton Rouge, LA

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Stephen B. Hinkamp
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Fort Lauderdale, FL
Reginald L. Jeter
Haughton, LA
Kyle Curtis Jones
New Orleans, LA
Clayton F. Kaul
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Natsuko Kibe
Shreveport, LA
Keith G. Landry
Denham Springs, LA
Michael J. Lebas
Baton Rouge, LA
Georgianne R. McCreery
Kenner, LA
Brian H. Miller
Kenner, LA
William T. Morrison
Dallas, TX
Susan N. Nolan
Metairie, LA
Stephen E. Prados
Metairie, LA
David P. Sauls
Houston, TX
Mark A. Tipton
New Orleans, LA
Oliver L. Underwood, Jr.
Bossier City, LA
Bradley S. Vance, P.E.
Shreveport, LA
Bao D. Vu
New Orleans, LA
William D. Deadwyler
Atlanta, GA
Fredrick M. Greeson
Little Rock, AR
Charles A. Machemehl, Jr.
Birmingham, AL
William D. Munch
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Philip F. Ritchie
Atlanta, GA
James B. Saylor
Marietta, GA
Ronald L. Schneider
Hazel Crest, IL
Alfred Sehnick
New York, NY
Garrison P. Smith, Jr.
Arlington, TX
Jerrold J. Tell
North Branch, MN
Sheila F. McShane
Kenner, LA

Continued on page 19

LES Board of Direction Unanimously Endorses the Louisiana Fiscal Reform Program

Following a lengthy discussion of the pros and cons of the various aspects of the proposed Louisiana Fiscal Reform Program, the Board of Direction of the Louisiana Engineering Society voted unanimously to support the Program to be voted on April 29, 1989. The discussion and vote were taken as an agenda item of the Board during its meeting in Monroe on March 17, 1989.

The Board considered the alternatives to not passing the Tax Reform package as unacceptable. The discussion presented by various members of the board provided a summary that if tax reform fails, the Louisiana Legislature must once again put "temporary" sales taxes on citizens, or cut \$500 million to \$600 million in expenditures from the budget. The engineers felt that renewing current sales taxes would simply leave Louisiana unchanged with an unpredictable economy. The possibility of the massive cuts was equally objectionable, especially considering the fact that the \$500 to \$600 Million would come from Discretionary Funds of some \$1.2 Billion, after deduction of Non-Discretionary and State Matching Funds. Vital services that impact the daily lives of each Louisiana resident and every engineer residing and working in the state would be adversely affected. It was the consensus of the Board members, as evidenced by the unanimous vote, that without passage of Fiscal Reform, the delivery of services to Louisiana citizens will be crippled.

The Board of Direction of the Louisiana Engineering Society represents nine (9) local chapters around the state (Shreveport, Monroe, Alexandria, Lafayette, Lake Charles, Bayou (Houma Area), Baton Rouge, New Orleans and North Lake (St. Tammany Parish) with a total membership of over 2,600. Current statistics of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors shows that there are approximately 9,000 Registered Engineers residing in the State of Louisiana.

Three Louisiana Students Awarded NSPE Scholarships

Griffin Davis and Garvin Davis of Baker, LA have each been selected to receive a \$500 minority scholarship for the study of engineering by the National Society of Professional Engineers (NSPE) Education Foundation. Simonne R. Jones of Baton Rouge, LA, has been selected to receive a \$500 regional scholarship by the Education Foundation. All three are students at Scotlandville Magnet High School and were selected from over 1,000 applicants at the annual nationwide competition for NSPE sponsored engineering scholarships. A National Selection Committee composed of prominent engineers, educators, and industry executives reviews all the applications and selects the winners.

The members of NSPE sponsor 48 such regional scholarships as well as six minority grants. In addition, three scholarships have been established by NSPE members in honor or in memory of prominent professional engineers, and the NSPE Auxiliaries Board funds a scholarship for a female engineer. Twenty-nine universities and seven major corporations or independent organizations offered 60 awards through the NSPE Education Foundation to high school seniors wishing to pursue a career in engineering. All tolled, the Foundation has over \$400,000 in scholarships available annually.

To have been eligible for a scholarship, a student must have:

- (1) Met a minimum test score requirement on the SAT or ACT.
- (2) Carried a minimum 3.0 grade point average in his or her sophomore, junior and senior years.
- (3) Ranked in the upper one-fourth of his or her high school class or been otherwise recommended by the principal;
- (4) Planned to enroll in an engineering program in a college or university accredited by the Accreditation Board for Engineering and Technology; and
- (5) Been a citizen of the United States.

Further information on the NSPE Education Foundation's 1989/90 Scholarship Cycle (for awards for fall 1990) will be available in September 1989 from

high school guidance counselors, local engineering chapters, state societies or the NSPE Education Foundation.

Louisiana Mathletes Prepare for National Competition

On March 11, seventh and eighth grade student "mathletes" from schools across Louisiana ran the second leg of the race for MATHCOUNTS National Championship.

Students competed as individuals and four-member teams. They juggle logarithms, hurdle equations and rebound logic problems to win the state title. The top four individual scorers representing Louisiana are: Clara Chan and Lillian Cho from McKinley Middle Magnet School in Baton Rouge; Jay Bienvenu from Paul Breaux Middle School in Lafayette; and, Matt Stone from St. Thomas More School in Baton Rouge. The top four schools were: McKinley Middle Magnet School, Baton Rouge; Paul Breaux Middle School, Lafayette; Caddo Middle Magnet School, Shreveport; and, Sherwood Middle School, Baton Rouge. Mrs. Claudia Allums of McKinley Middle Magnet School, the winning coach, will be accompanying the "mathletes." They will compete against U. S. teams from all other states, the District of Columbia, Guam, Puerto Rico, U.S. Virgin Islands, Defense Department and State Department schools worldwide.

State winners earn an all-expense-paid trip to Washington, D.C. to compete in the national competition. The national champion will receive a \$10,000 scholarship in addition to a personal computer. The second and third place winners will be awarded \$6,000 and \$4,000 scholarships, respectively. Other prizes for top winners include all-expense-paid trips to U. S. Space Camp, trophies, medals and other prizes.

MATHCOUNTS is a national cooperative project of the National Society of Professional Engineers, CNA Insurance Companies, the Cray Research Foundation, the General Motors Foundation, National Council of Teachers of Mathematics, NASA, and the U. S. Department of Education.



Leta Bueto
Executive Director
Louisiana Engineering Society



MATHCOUNTS combines year-long in-class coaching with a series of competitions to increase students' interest in mathematics. The combined coaching/competition approach aims at improving math education curricula in junior high schools and at making math achievement as challenging, rewarding and exciting as a school sports event.

Since September an estimated 750,000 mathletes have participated. Over three million students have sharpened their skills since the program began in 1983.

MATHCOUNTS is supported by the non-profit MATHCOUNTS Foundation. For more information contact state MATHCOUNTS coordinator Paul Gulman, P.E., at 303/971-4262.

Pinch Technology Workshops Offered

Two Pinch Technology Workshops on the pinch concept in heat recovery network design are scheduled for June 6 and 7, and June 28 and 29, 1989 at LSU in Baton Rouge. These hands-on-training workshops are sponsored by the Louisiana State University Center for Energy Studies.

Pinch technology is an entirely fundamental approach which provides a clear picture of energy flows in a process and identifies the most constrained part of the process, the process pinch. Pinch technology provides a means of determining the minimum amount of hot and cold utilities needed for a process, thus providing a target for the design. Engineers using pinch technology have reported energy cost savings of 15 to 90 percent, capital cost reductions of up to 25 percent, improved flexibility and operability, and increased plant capacity.

We recommend that these hands-on training workshops be attended by plant managers, process engineers, energy managers, project managers, design engineers, utility system engineers, and anyone interested in overall process design. The registration fee will be \$300 per person, and this will include hands-on training in the computer lab using the Pinch Technology software developed at LSU by Chemical Engineering Professor

Carl Knopf, who is teaching the workshops.

For additional information, please call Gloria T. Peterson (504) 388-4559.

Owner Geotechnical Engineer Agreement

The Engineers Joint Contract Documents Committee (EJCDC) announces the publication of a new "Standard Form of Agreement Between Owner and Geotechnical Engineer for Professional Services." The document was prepared in conjunction with the Association of Engineering Firms Practicing in the Geosciences (ASFE) for use in engineered projects where the owner retains the geotechnical engineer to obtain all geotechnical information and interpretations and provide continuous services throughout the design and construction phases of the project. Included along with the basic document are a guide sheet for completing the standard form, form to describe further basic services and related matters, dispute resolution agreement, and other appropriate provisions.

While the EJCDC recommends that the geotechnical engineer should be engaged directly by the owner, some owners may prefer that the engineer employ the geotechnical engineer directly. For this purpose the EJCDC has a Standard Form of Agreement Between Engineer and Geotechnical Engineer for Professional Services (EJCDC No. 1910-27-B, 1986 Edition).

The Engineers Joint Contract Documents Committee consists of the National Society of Professional Engineers, American Consulting Engineers Council, American Society of Civil Engineers and the Construction Specifications Institute.

Copies of the new document may be obtained by sending \$7.00 to the National Society of Professional Engineers, P.O. Box 96163, Washington, D.C. 20090-6163. Please identify the document as EJCDC 1910-27-A (1989 Edition).

In Memoriam

Arthur A. DeFraites, Sr., P.E.

Arthur A. DeFraites, Sr., P.E. a Civil Engineer and Land Surveyor instrumental in designing and developing wa-

ter and natural gas distribution systems over a wide area of Terrebonne Parish expired on February 5, 1989.

DeFraites, a native of New Orleans, was a resident of Houma and New Orleans. He founded DeFraites Associates Inc. and Gulf South Engineers of New Orleans and Houma.

He was a Registered Professional Engineer in Louisiana, Mississippi, Texas, New Mexico, Pennsylvania and Oklahoma and a Registered Land Surveyor in Louisiana.

He graduated from Tulane University in 1928 with a bachelor's degree in civil engineering.

He was a member of the American Society of Civil Engineers, American Water Works Association, American Concrete Institute, Houma Lions Club, Navy League of the United States, Knights of Columbus, Tulane Alumni Association, and a past member of the National Society of Professional Engineers and the Louisiana Engineering Society.

During his career as a professional engineer in Terrebonne Parish, he was responsible for development and design of the water distribution systems outside the city of Houma, the natural gas distributions system in western Terrebonne Parish and 16 sanitary sewerage districts.

He conducted research and development leading to the use of activated carbon for the treatment of taste, odor and color of water at the Terrebonne Parish Waterworks District No. 1.

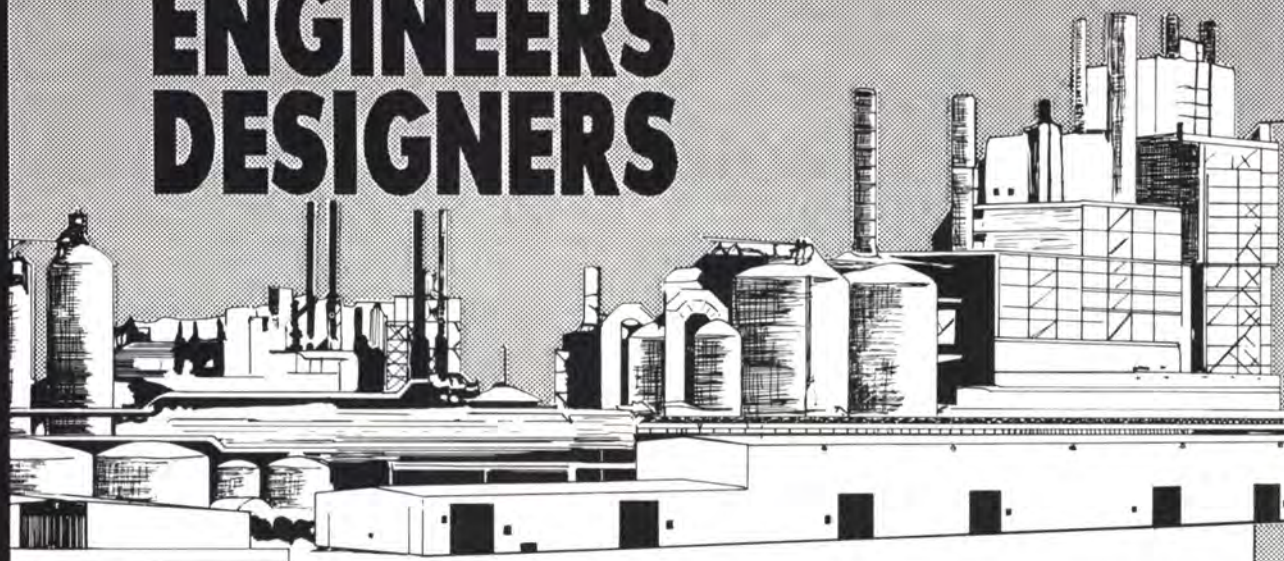
DeFraites also was responsible for the innovative design of the North Terrebonne Sewerage Treatment Plant, recognized as one of the most cost-effective of its type.

He is survived by his wife Ethel Dugan DeFraites; two sons, Arthur A. DeFraites, Jr. and John M. DeFraites; three daughters, Ethel Reynolds, Virginia DeFraites and Blanche Ullo; a brother, five sisters, 25 grandchildren and two great-grandchildren.

The Board of Direction and members of the Louisiana Engineering Society express our deepest sympathy to his family.

Continued on page 16

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- **Power Staff**
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When is the Construction Industry Going to Wake Up!!!

By Robert W. McKenzie, P.E.

Imagine this! At a national convention of bankers the keynote speaker suggests the financial industry should change the U.S. monetary system. He suggests that our monetary system should be based upon:

16 pennies to the dime, and
12 dimes to the dollar.

At first I would suspect that most people would think he was pulling their leg. But as he continued to expound this system and when they realized he was serious, can you imagine the boos of protest. They would probably run the guy out of town after tarring and feathering. Can you also imagine the field day that editorial writers would have with this guy? He would be laughed out of any hopes of gaining back his reputation. High school kids have enough trouble making change today. Can you imagine their difficulty with such a system? I don't even think the computer people that work in the hexadecimal system would welcome the change. How could anyone even jokingly think of saddling the financial industry with such a preposterous system.

BUT THIS IS EXACTLY THE SYSTEM THAT THE CONSTRUCTION INDUSTRY IS SADDLED WITH RIGHT NOW. And no one seems to protest. Certainly not the editorial writer or your congressman. They don't care. They don't have to use the cumbersome feet-inches-fraction system in their day-to-day work. But we do, **AND IT IS TIME THAT WE DO SOMETHING ABOUT IT.**

I suppose it is too much to expect our representatives in Washington to understand that the rest of the world is leaving the United States behind in production. It is too much for us to expect them to understand the benefits of the metric sys-

tem (some of our own colleagues also don't understand). After all we seem to muddle along OK with our 16-12-10 system. We probably only waste 10%-15% of our time adding, subtracting, and converting feet-inches-fractions and with only a few errors. And our drawings aren't that much more cluttered, unless you are using CADD and have lots of dimensions with fractional inches. But who cares about increasing productivity and accuracy? I do and probably most of you do too.

We need to convert to the metric system. Ask someone who has used both systems for construction drawings for any length of time. Can you imagine Japan or the European nations converting to our system! The metric system is far superior. Not because it has better measurements — but because it is a DECIMAL system.

However, since it appears that there is little hope of the United States converting to the metric system in the foreseeable future, I propose that we at least convert to a decimal foot or a decimal inch system or a combination of both. Let's forget the fractions. A lot of manufacturers have already done this. It is now time for the construction industry to wake up.

I propose that Louisiana lead the way. Representatives of the Louisiana Engineering Society, Louisiana Architects Association, Consulting Engineers Council of Louisiana, Louisiana Associated General Contractors, and any other interested organization should get together and formulate industry-wide rules to follow for construction documents.

I would suggest that some of the rules be as follows:

When feet is used it should be in decimal feet carried to the 3rd decimal place except when there is more than 1 zero in the decimal portion. For example:

102.000	would be shown as	102.0
102.300		102.30
102.380		102.380
102.384		102.384

Any length over 12 inches should be expressed in decimal feet.

Any length under 12 inches could be expressed in decimal inches to a maximum of 2 decimal places. No fractions. This length could also be expressed in decimal feet with a 0. beginning.

Fractions could (but not necessarily) still be used when referring to bolt diameters, plate thicknesses, etc. These fractions are essentially the name of the object similar to a #6 rebar.

A 4" brick would still be a 4" brick. A 3/4" bolt would still be a 3/4" bolt.

Dimensions expressed in feet would need no label and should always contain a decimal point — although they could be labeled with the foot mark ' as usual. Dimensions expressed in inches should always carry the " label and would not need the decimal point. No dimension would be a mixture of feet-inches as is now used.

The cardinal rule for dimensions - **NO FRACTIONS.**

I challenge the Louisiana construction industry to act now. Let's show the rest of the nation that Louisiana is leading the way and is striving to make our state more competitive in construction. **LE**

POTPOURRI

Continued from page 13

Frank W. Macdonald, Ph.D., P.E.

Dr. Frank W. Macdonald expired on February 21, 1989, at his home in New Orleans. He was 80.

He was Professor of Civil Engineering for thirty years, and former Acting Dean of the School of Engineering, Tulane University. He was also Professor of Public Health and Chairman, Department of Environmental Health, Tulane University School of Public Health. For many years, he served as Consultant to the firm of Waldemar S. Nelson and Company, Inc. and other engineering firms in the design of water and sewerage treatment plants, drainage districts and other sanitary engineering works.

His research activities were extensive, including investigation of the pollution of the Mississippi River in the vicinity of New Orleans, a study of the drainage system of the City of New Orleans and many more. Among his numerous publications, he authored a manual of Public Health practices in disasters and a textbook of environmental hygiene used in the Medical School and Graduate School of Tulane University.

Under World Health Organization auspices he visited Brazil, Peru, Chile, the

Philippines, Thailand and India for consultations and surveys of environmental systems.

He received his B.S. in Civil Engineering at Tulane, his B.S. in Public Health Engineering at Massachusetts Institute of Technology, his M.S. in Civil Engineering at Tulane and a Doctor of Public Health at Tulane University.

Dr. Macdonald served as President, Louisiana Engineering Society; President, Louisiana Section, American Society of Civil Engineers; and National Director, National Society of Professional Engineers.

He was a Fellow of the American Society of Civil Engineers and of the American Public Health Association. He was a member of the Louisiana Engineering Society, the American Water Works Association, Sigma Phi Epsilon, Tau Beta Pi, Delta Omega and the Metairie Country Club.

He was the husband of Sylvia Duncan Harry and of the late Yvonne Trapolin Macdonald. His survivors include three daughters, a brother, and eight grandchildren.

The Board of Direction and members of the Louisiana Engineering Society express our sympathy to his family.

Claude John Kelly, Jr., P.E.

Claude John Kelly, Jr., P.E., president of the New Orleans Cement Company and co-owner of Kolb's Restaurant, expired on March 12, 1989. He was 59.

A life long resident of New Orleans, he was a graduate of Jesuit High School and received a bachelor of science degree in civil engineering from Tulane University.

Mr. Kelly was Past Chairman of the Board of Zoning Adjustments for the City of New Orleans, and he was a member of the Board of Directors for the Economic Development Council for the Chamber of Commerce. He was a former member of the Board of Directors for the Metropolitan Safety Council, American Concrete Pipe Association and the Home Savings and Loan Association.

He was a member of the Board of Advisors for Tulane University's School of Engineering, Past President of the New Orleans Chapter of the American Public Works Association and the Society of Tulane Engineers. He was Director of the Tulane Alumni Association and a Member of the Jesuit High School President's Club.

Mr. Kelly was a member of the Louisiana Engineering Society, the



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American Society of Civil Engineers, the National Society of Professional Engineers, the Rotary Club, the Plimsoll Club, the New Orleans Country Club and several Carnival Organizations.

The Board of Direction and members express our deepest sympathy to his wife Angela Brady Kelly, and their children. **LE**

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Please assign me to the Chapter checked below:

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Continued from page 11

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Calendar of Events

We invite all technical and professional organizations to submit their meeting dates for publication in the *Louisiana Engineer* to: Editor, P.O. Box 2683, Baton Rouge, LA 70821

April 18, 1989

CEC/L Board of Governors Meeting,
Henderson, LA

April 19-22, 1989

Louisiana Society of Professional Surveyors
Annual Convention, Baton Rouge, LA

April 26-29, 1989

LES Awards Meeting, Holiday Inn,
Covington, LA

April 29, 1989

LES Board of Governors Meeting,
Covington, LA

May 7-11, 1989

ACEC Annual Convention, Scottsdale, AZ

May 12, 1989

National MATHCOUNTS Competition,
Washington, D.C.

May 16, 1989

CEC/L Board of Governors Meeting,
Baton Rouge, LA

June 5-6, 1989

State Board of Registration Meeting,
New Orleans, LA

June 9, 1989

LES Board of Direction Meeting,
Shreveport, LA

June 9-10, 1989

CEC/L Annual Meeting,
Sheraton Hotel, Baton Rouge, LA

July 23-30, 1989

NSPE Annual Meeting,
Minneapolis, MN

July 24-25, 1989

State Board of Registration Meeting,
New Orleans, LA

July 28, 1989

LES Board of Direction Meeting,
Bayou Chapter Area

September 8, 1989

LES Planning Conference,
Alexandria, LA

September 9, 1989

LES Board of Direction Meeting,
Alexandria, LA

October 18-21, 1989

LES Annual Meeting, Ramada Inn,
Baton Rouge, LA

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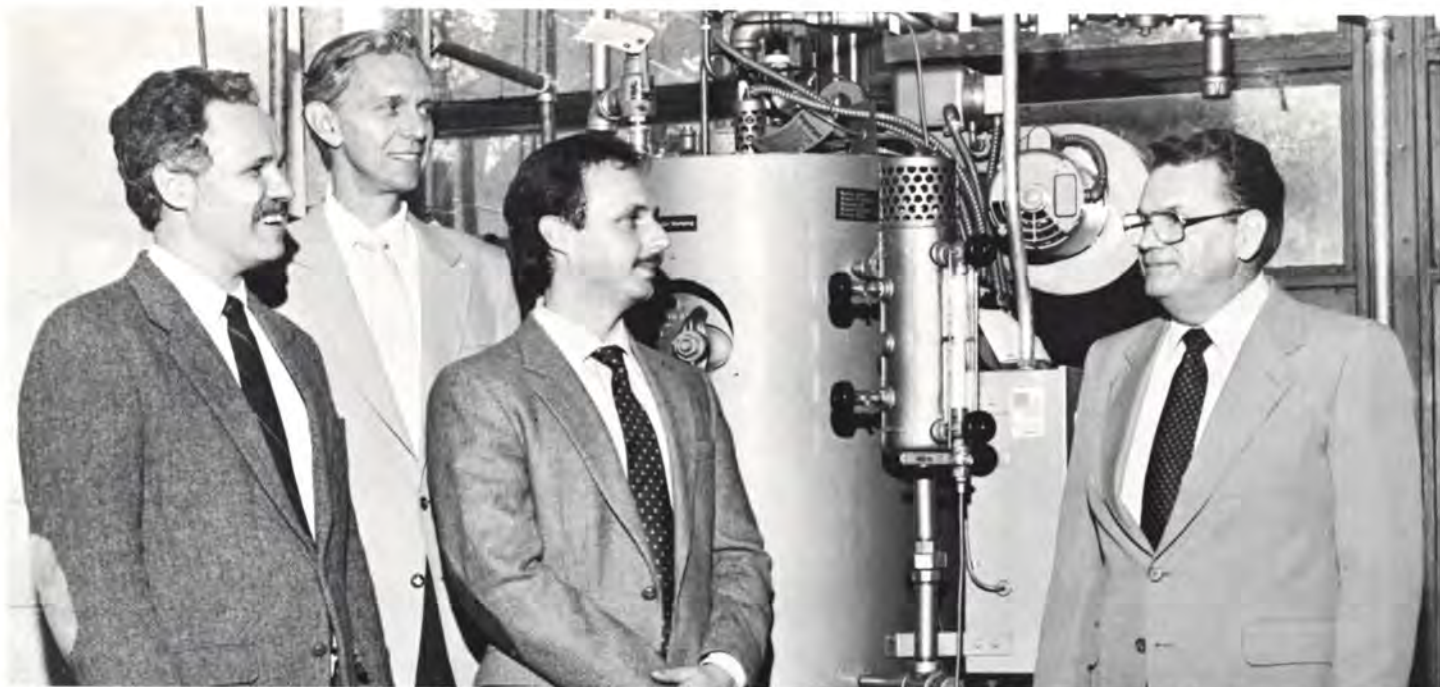
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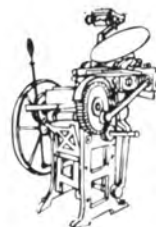


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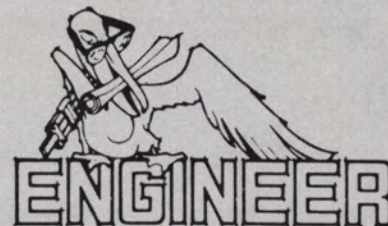
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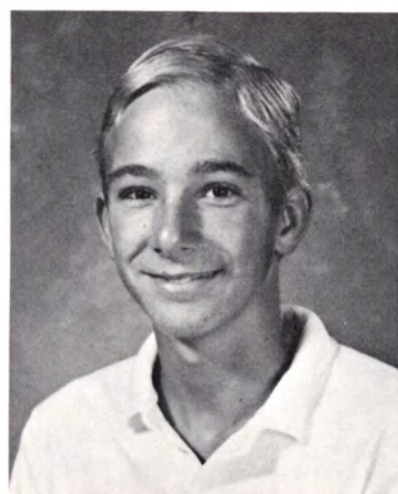
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Members of the Louisiana MATHCOUNTS Team are pictured on this month's cover. Story begins on page 6.



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Committee Activities Continue

The recently completed 1989 LES Annual Awards Meeting was held in Covington this year, marking the first statewide meeting held in the North Lake Chapter. On behalf of the Society, I want to thank Kelly McHugh, P.E. and members of that Chapter for helping to arrange and coordinate that fine meeting.

As usual, the student paper presentations were impressive. Two very informative seminars were conducted; one on professional ethics and one on professional liability insurance. Both seminars were well attended and provided practical information which can be immediately applied. The Annual Awards Banquet provided an opportunity for the Society to recognize outstanding achievement by our fellow engineers. I certainly extend congratulations to the recipients, who were listed in the last issue of this magazine. Richard R. Pettigrew, P.E.-L.S., Vice President of the Southwestern Region of NSPE, attended all of our meetings and often commented on LES's active participation and strong leadership in the NSPE organization.

Practice Divisions and Committees were very active at the Covington meeting. The Membership Committee continues to work hard trying to reverse the decrease in membership experienced by LES in recent years. Several chapters are providing some encouraging results.

The Constitution and By-Laws Committee, in addition to some specific items to address, is embarking on a general review of both documents, which hasn't been done in many years.

The Public Relations Committee has developed a public relations master plan for LES which will improve the image of professional engineers throughout the state, encourage registration as a goal for high professional standards, inform the public more fully about the role of professional engineers and strengthen and unify LES by providing programs geared to



James W. Reeves, Ph.D., P.E.
President
Louisiana Engineering Society

the many diverse interests of professional engineers in each field. Included are specific methods and tasks to accomplish these worthy goals.

The Long-Range Planning Committee presented the results of a membership survey which attempts to assess membership opinion of LES at the chapter and state levels. Also presented was a national member opinion survey recently conducted by NSPE. Both of these documents will assist LES in improving service to the membership. The Committee has decided to refine the state survey instrument and to conduct a statewide survey every two years.

The Education Committee has recommended, and the Board has agreed, that LES establish an ad hoc committee to study engineering higher education in the State and to make appropriate recommendations to the Board of Regents. The 1985 report to the Board of Regents by out-of-state consultants would probably be a starting point. An attempt will be made to appoint impartial committee members who have no connection with

any existing engineering program. It is felt that LES should take an active stand in this matter instead of reacting to others.

The Legislative Committee is extremely busy. They must look at approximately 2600 house and senate bills to decide which are of interest to LES, requiring in depth reviews. Lamon Moody, P.E.-P.L.S., and several Baton Rouge Chapter members are assisting Skip Ritter, P.E., and the Committee with this huge job. In addition, LES is introducing several bills to improve the engineering profession. Included are bills to allow for more orderly appointments to the Registration Board, to provide the Registration Board authority over nonregistrants who violate the act, to authorize the Registration Board to promulgate rules and regulations in connection with competitive bidding and compliance with the Campaign Finance Act of the State, and others.

The Task Force on Continuing Professional Development is progressing in their work. They have reviewed information from several states which have adopted rules or are considering the adoption of rules. The implication of adopting a mandatory policy is very far reaching, and important and difficult questions must be answered before a final conclusion is reached.

The Ethics Committee has had an active year investigating charges brought against members. Some new charges were determined by the Board to be non-trivial at the Covington meeting. The Ethics Committee activities are extremely important to our Society, and their investigations must be thorough and accurate.

There is insufficient space to discuss detailed activities of all committees and practice divisions, but you can see that we have a very active society which is trying to serve all of our membership in the best possible manner. Your help and suggestions are solicited and would be very much appreciated. **LE**

The Metric System

The French Curse

Ralph E. Luke

Vice President & General Manager
The Austin Company, Toronto

As Napoleon Bonaparte fled the field at Waterloo, he knew that his glittering empire had come to an end and that the nations of Europe were once again at liberty to determine their own destinies.

He may well have taken comfort, as his carriage jostled a passage through the panicked troops, that he had left the world a legacy for which many of us will never bring ourselves to forgive him — the metric system.

Following the French Revolution, the new government appointed a body of scientists to formulate a system of weights and measurements that would have some logical basis, to replace the chaotic medieval system then in common usage in France. They decided upon a "metre" to be the primary unit of measurement — a metre being defined as 1/10,000,000 of a quadrant of a great circle in the N/S direction, passing through Paris.

The metre was arbitrarily divided into a hundred parts — centimetres. A cubic centimetre became a standard of volumetric measure and the weight of one cubic centimetre of water became the standard of weight — one gram.

The metric system was officially adopted by France in 1799.

However, it did not gain ready acceptance in France (see — the French didn't really like it either) and new laws had to be passed in 1840 to enforce the system.

Other countries were also slow to accept the new measurements, and in fact many countries introduced the metric system only after major internal revolutions (U.S.S.R., Republic of China). The metric system was introduced along with other unpalatable policies like denial of freedom of religion, speech and franchise.

Proponents of the system will argue that the system is logical. What is logical about basing all measurement on the supposed length of a great circle passing through Paris? Who cares? In any case, calculations of the earth's circumference in 1799 were wildly inaccurate. So much so that the standard metre is now defined

as "1,650,763.73 wave lengths of the orange-red line in the spectrum of the krypton - 86 atom under specified conditions." Now where is the logic?

"A decimal system makes more sense" say the metric supporters. Why then do we maintain 12 months in a year, 7 days in a week, 24 hours in a day and sixty minutes to an hour? Why not 100 minutes to an hour and 10 hours in a day?

The reform of measurements in France in 1799 was by no means the first made by a major nation. Shortly after the Magna Carta was signed in 1215, to regularize the chaotic system in England, an Assize of Weights & Measures standardized units in that kingdom. "The Iron Yard of our Lord the King" was prescribed for the realm, divided into three feet, each of twelve inches. These divisions were traditional, dating back to pre-Roman times.

Why 3 and 12? Well — why not? Standards for volume (pints and bushels) and weight (ounces and pounds) were also prescribed.

This system, now commonly known as the Imperial system, remained essentially unchanged for 600 years and spread throughout the world because of British imperial expansion and also because of the manufacturing and trade dominance Britain once had following the Industrial Revolution.

In 1790, George Washington, in order to bring uniformity to the currency of the 13 States, decided upon a decimal monetary system but decided to retain the English system of weights and measures because "of the inertia it had achieved." England, by this time dominated world trade and manufacture.

Ironically, the last bastion left of the Imperial system is the only nation that successfully rebelled against the Empire — and that is, the United States. The metric system has made little progress in the U.S. and in the construction business, none at all. (They even spell "metre" incorrectly). Even measures long ago abandoned by Britain are still retained.

What is now known as the U.S. gallon was once called the Queen Anne gallon, abandoned by England in 1824.

Canada's unenthusiastic attempts to go metric have left a chaotic situation. Here are some examples:

When you buy a house, the lot size is quoted in feet. Room sizes, however, are in metres and fractions thereof. The carpet you buy for the metric sized rooms is in square yards.

The window size may be Imperial or metric. The fabric you buy to make the drapes from will be in inches of width, but you will purchase it in metres of length.

You buy butter by the gram but potatoes come in ten pound bags.

Gas is in litres but tire pressures are in pounds per square inch.

Your driving license will quote your weight in kilograms; the nurse at the doctor's office will weigh you in pounds.

The architectural and engineering business clings to the Imperial system in Canada and the forthcoming free trade agreement with the U.S. will erase any chance of the metric system becoming established in the construction industry. It may also leave Canada high and dry as the only country where there is an illogical mixture of systems.

The confusion in Canada compares to 1215 in England and 1799 in France before standardization in those countries brought uniformity.

In 1992, the United Kingdom forms much closer technical and manufacturing ties to the European Continent which will just about bring the end to the Imperial system in that country. And old Queen Victoria hardly cold in her grave.

As his carriage rumbled over the bridge to safety — but eventual exile in St. Helena — Napoleon turned to survey the devastation behind him. Then he smiled that wry Corsican smile of his. Revenge would yet be his. **LE**

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MATHCOUNTS

NSPE'S FINEST EFFORT

By Kerry J. LaBauve, P.E.

At The Crossroads

When Sputnik left the earth's atmosphere and orbited around our world, Americans sensed the imminent threat from abroad and responded to John Kennedy's challenge to be the "Best We Can Be." Engineers, scientists, and mathematicians rallied around their president and guided the American Space Program to unbelievable achievements in incomprehensible time.

Today, America is faced with yet another threat from abroad. Aptitude test results are revealing that U.S. students are not measuring up to their Asian peers. The steady decline in math and science education in America has created a shortage of qualified engineers, scientists, and technicians to fulfill the evergrowing demand for these professionals.

What does all this have to do with our MATHCOUNTS Program, and why is it at the crossroads? The National Society of Professional Engineers has been attempting to formulate various program philosophies, policies and procedures to make MATHCOUNTS the "best it can be," in an effort to stimulate our children's interest in mathematics. The basic idea conceived years ago was to provide a vehicle by which as many youngsters, who so desired, could participate in a program that allowed them to discover the true relevance and importance of mathematics. The results to date indicate that these goals are not being achieved, in that many schools do not participate at all. Numerous schools that do prepare for the competitions select an elite group of students based on their math skills measured by routine classroom work performance. Many eligible students never see the MATHCOUNTS school preparatory materials and power drills.

Perhaps the importance placed on winning instead of participating has clouded the true objectives we have attempted to set for MATHCOUNTS. Recent critiques of the program by the engineers who administer the testing focused on the issue of "question complexity." They believe that the testing is too rigorous, and is the primary obstacle restricting active participation by average schools.

NSPE has responded to the opportunity to revise the program policies and

address the issue from two points of view. The MATHCOUNTS Administration announced that coaches and students participating in the 1990 competition will experience positive changes. Coaches will receive expanded training aids focusing on teaching methods in direct harmony with the criteria being used by the "question writers." This change was implemented through suggestions from the National Council of Teachers of Mathematics (NCTM). They agree that test question complexity is a concern, but that the main reason for the low scoring statistics is due to the fact that teaching methods used to prepare the Mathletes is inconsistent with the test preparation philosophies. Students taking the regional, state and national tests will see fewer and simpler problems to solve in the same allotted time as before. If the new "problem solving" training philosophy is implemented, NCTM indicates that advanced algebra and trigonometry skills will not be necessary to solve the test problems.

MATHCOUNTS is at a crossroads. This new program policy and philosophy is the best effort yet to propel American education in math and science in the right direction and ward off the threats from abroad. We must not allow the USA to become a second rate technological society.

News From Louisiana MATHCOUNTS:

The 1988-89 MATHCOUNTS Team recently turned in an outstanding showing in Washington, placing 13th out of 56 competing teams. Coach Claudia Allums, of McKinley Middle Magnet in Baton Rouge, prepared her team members, Sidney Bienvenu of Paul Breaux Middle School in Lafayette, Clara Chan, Lillian Cho, of McKinley Middle Magnet, and Matt Stone of St. Thomas More School in Baton Rouge for the national competitions. Mrs. Allums' superb teaching and coaching methods, coupled with the talent of our brilliant Mathletes, produced national placement for individuals with randomly listed scores of 25th, 36th, 46th, and 111th out of 224 competing students.

The Louisiana Engineering Society and all the teachers, mathletes, and parents who participated in MATHCOUNTS congratulate Coach Claudia Allums

and the 1988-89 Louisiana Team for an excellent performance.

While in Washington, the Louisiana delegation toured the Nation's Capitol, which included a visit to the House and Senate Galleries, courtesy of U.S. Representative Richard Baker's Office. Garland Pennison, P.E., accompanied the Louisiana Team as our L.E.S. representative and reported that the national experience was exciting and enlightening, and that the Louisiana group really enjoyed themselves.

The 1989 State MATHCOUNTS Competition was sponsored by the L.E.S. Baton Rouge Chapter, and held at the Ramada Hotel. State Coordinator Jim Ragland, P.E., organized and conducted a successful program with the support of the Baton Rouge Chapter, and their Auxiliary. The visiting teams and supporters were treated to an excellent poolside fish fry (naw, the fish weren't in the pool) along with tours of the USS KIDD Museum and other attractions in Baton Rouge. Dr. Wilmer Cody, State Superintendent of Education, was on hand to present the awards to the top teams and individuals and express his support of our MATHCOUNTS Program. Dr. Cody will serve as a member of the MATHCOUNTS Steering Committee.

Louisiana Team Standings for 1989 are:

SCHOOL	COACH
1. McKinley Middle Magnet Baton Rouge	Claudia Allums
2. Paul Breaux Middle School Lafayette	Jean Caruthers
3. Caddo Middle Magnet Shreveport	T. Willie Moore
4. Sherwood Middle Magnet Baton Rouge	Glenna Gammon
5. St. Thomas More Baton Rouge	Colleen Halbert
6. Episcopal of Acadiana Lafayette	Paul Hebert

Top Ten Individuals for 1989 are:

NAME	SCHOOL/COACH
* 1. Clara Chan	McKinley/Claudia Allums
* 2. Jay Bienvenu	Paul Breaux/Jean Caruthers
* 3. Lillian Cho	McKinley/Claudia Allums
* 4. Matt Stone	St. Thomas More/Colleen Halbert
5. Chris Gammil	Caddo Middle Mag./T. Willie Moore
6. Jon Rowland	Sherwood Middle/Glenna Gammon
7. Joshua Benton	Episcopal/Acadiana/Paul Hebert
8. Faith Kendrick	McKinley/Claudia Allums
9. Hubert Ho	McKinley/Claudia Allums
10. Michael Tate	Brame Jr. High/Margaret Walding

*Members of the 1989 Louisiana National Team.

The 1989 MATHCOUNTS Task Force is to be commended for their efforts in maintaining 200 schools registered with NSPE this year. Special thanks to the staff, coordinators, LES Members, spouses, auxiliaries, and friends who support our Task Force and our Program.

Leta Bueto	LES Executive Director
Cindy Forbes	LES Secretary
Jim Ragland, P.E.	State Coordinator
Garland Pennison, P.E.	Alexandria
Jack Laws, P.E.	Baton Rouge
W. David Pope, P.E.	Bayou
Mark Dubroc, P.E.	Lafayette
Curtis Dyle, P.E.	Lake Charles
Tom Holtzclaw, EIT	Monroe
Fred Brown, P.E.	New Orleans
Laurence Dequay, P.E.	North Lake
Eric Tillstrom, EIT	Shreveport

Without the financial support of the MATHCOUNTS Sponsors in Louisiana, our program would not be successful and the opportunities which have been created for our children would not exist. Sincere thanks to these sponsors:

- Louisiana Investor-Owned Electric Companies:
 1. Gulf States Utilities
 2. Louisiana Power and Light Company
 3. New Orleans Public Service Inc.
 4. Southwestern Electric Power Co.
 5. Central Louisiana Electric Co.
- Consulting Engineers Council of Louisiana
- Louisiana Engineering Society
- Louisiana Engineering Foundation
- Professional Engineers in Private Practice
- Professional Engineers in Industry



National MATHCOUNTS Competition Washington, D.C.



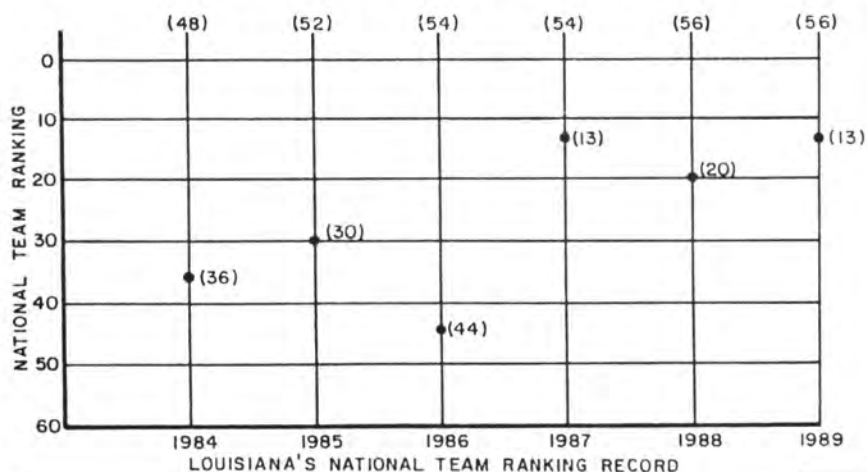
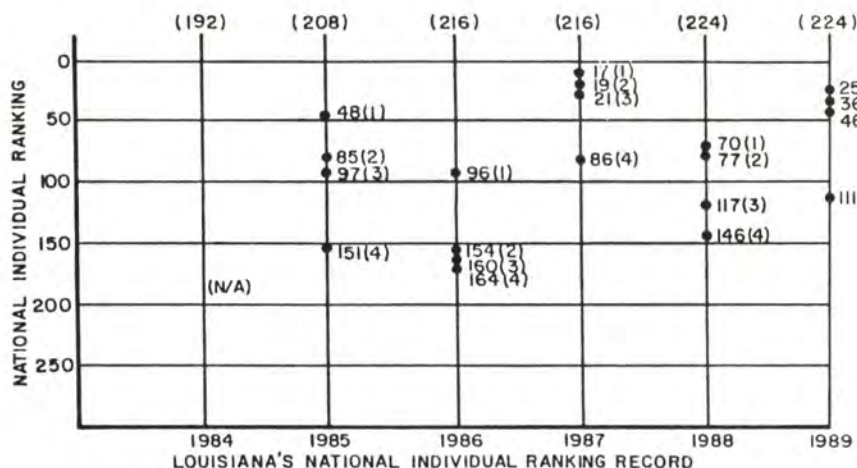
Louisiana's Team (left to right): Coach, Claudia Allums, Sidney Bienvenu, Lillian Cho, Matt Stone, and Clara Chan.



Clara Chan and Lillian Cho are interviewed by media at National competition.



Mark Hurt (left), Administrative Assistant to U.S. Representative Richard Baker, welcomes the MATHCOUNTS Team, Coach Allums, and Garland Pennison, LES Representative, to the Capitol.



MATHCOUNTS School Registration by State



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Ballot To Elect Louisiana Engineering Society Members To Engineers Selection Board

Act 721 passed in the 1975 Legislature amended Chapter 10 to Title 38 of the Louisiana Revised Statutes of 1950 by adding thereto a new Part VII, Selection of Professional Services for Public Contracts. Three Boards - Architect, Engineer and Landscape Architect Selection - are authorized under this Act. Each Board selects persons or firms to perform certain professional services for public contracts.

The Act refers to the Louisiana Engineering Society, specifying the following: The Louisiana Engineers Selection Board shall be composed of seven members. Two members shall be named in an election conducted by the Louisiana Engineering Society at which all properly licensed engineers residing in the state of Louisiana may vote for positions to be filled. LES has two positions to fill this year, one with term ending June 30, 1990 and one ending December 31, 1990.

The LES Board of Direction nominates Edward J. Moch, P.E., Baton Rouge, for the June 30 position and Osborne J. Dykes, P.E., Shreveport, for the December 31 position.

Each Louisiana Registered Professional Engineer working and living in the state is eligible and urged to vote. Space on the ballot is provided for write-in candidates. A write-in candidate must be a Louisiana Registered Professional Engineer 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 six months thereafter.

LES ENGINEER SELECTION BOARD

1. Mark and return to LES, P. O. Box 2683, Baton Rouge, LA 70821, by July 15, 1989. LES is not responsible for late delivery of mail.
2. Make sure your name and address is on the envelope that forwards the ballot to LES. Ballot signature is not required.

Vote for One Candidate in Each Position

POSITION ONE (Term July 1, 1989 - June 30, 1990)

☐ Edward J. Moch, P.E., Baton Rouge, LA

☐

For write-in

POSITION TWO (Term January 1, 1990 - December 31, 1990)

☐ Osborne J. Dykes, P.E., Shreveport, LA

☐

For write-in

PLEASE VOTE. RETURN TO LES, P. O. Box 2683, Baton Rouge 70821 prior to July 15, 1989.

.....
PLEASE CUT ALONG THIS LINE

Ballot To Elect Consulting Engineers Council Of Louisiana Members To Engineers Selection Board

INDIVIDUAL PRINCIPAL'S BALLOT

Qualifications of voting eligibility.

Act 721, A (2) "The Louisiana Engineers Selection Board. It shall be composed of seven members. Two members shall be named in an election conducted by the Consulting Engineers Council of Louisiana, Inc. at which all properly licensed engineers, who are principals of firms with offices in Louisiana, may vote for the same number of candidates as there are positions to be filled," . . .

One nominee will be elected to fill the position whose term begins July 1, 1989 and ends June 30, 1990.

One nominee will be elected to fill the position whose term begins January 1, 1990 and ends December 31, 1990.

The CEC/L Board of Governors has nominated the following engineers who have expressed a willingness to serve during the stated terms below.

Vote for One Candidate in Each Position

Mark this ballot and return to CEC/L, P. O. Box 1549, Baton Rouge, LA 70821. Replies must be received by noon, July 15, 1989 to be counted.

POSITION ONE (Term beginning July 1, 1989 and ending June 30, 1990)

☐ Larry A. McKee, P.E., Baton Rouge, LA

☐

For write-in

POSITION TWO (Term beginning January 1, 1990 and ending December 31, 1990)

☐ Gene E. Sullivan, P.E., New Orleans, LA

☐

For write-in

CEC/L Receives AG Advice on Preference Resolution

Consulting Engineers Council of Louisiana (CEC/L) recently received a reply from the Office of the Attorney General relative to the status of a preference resolution that was concurred in by the House and Senate during the 1982 Regular Session of the Louisiana Legislature. The resolution, SCR 97, directed all agencies of state government to show preference to Louisiana professionals in the award of contracts over nonresident professionals. Since then, many professionals from Mississippi have expressed their concern about the resolution and its impact on their ability to be considered for contracts by the State of Louisiana.

Last year, CEC/L proposed a resolution to the Legislature that would have directed state agencies to show preference to Louisiana professionals only when nonresidents are domiciled in states with preference laws or policies. That resolution died in the House after having successfully passed the Senate with no objection. In preparing for the introduction of a bill of the same nature for the current legislative session, the CEC/L staff uncovered some facts about concurrent resolutions and their effective dates. Replying to a CEC/L inquiry, the Office of the Attorney General for the State of Louisiana sent the following reply which should lay to rest the issue of preference in the award of professional services contracts:

Dear Mr. Wilder:

We have received your inquiry regarding the following issue:

Whether Senate Concurrent Resolution No. 97 of 1982 remains viable today or whether it was considered a resolution suspending an established procurement law or policy and therefore expired after the 60th day following adjournment of the 1983 Regular Legislative Session?

It is our opinion that the resolution was one which suspended an established procurement law or policy and therefore expired 60 days following the adjournment of the 1983 Legislative Session. LSA Const. Art. 3, §20 of 1974 which regulates the suspension of laws reads:

Only the legislature may suspend a law, and then only by the same vote

and, except for gubernatorial veto and time limitations for introduction, according to the same procedures and formalities required for enactment of that law. After the effective date of this constitution, *every resolution suspending a law shall fix the period of suspension, which shall not extend beyond the sixtieth day after final adjournment of the next regular session.*

Since no time limitation was stated in SCR No. 97, the termination point became 60 days after the adjournment of the 1983 regular session.

Looking at the language of the resolution, it appears to have been the legislature's intent by adopting SCR No. 97 to suspend an established procurement law. "Therefore, be it resolved by the Senate . . . that henceforth all agencies of state government shall contract for professional services with firms which will perform work within the state . . ." More importantly, had the legislature intended for the provisions SCR No. 97 to remain viable, it (the legislature) could have done that by means of a subsequent resolution or legislative act. We are unable to locate any subsequent resolutions or acts on the issue.

It is therefore our advice that SCR No. 97 expired 60 days following the adjournment of the 1983 Regular Legislative Session in accordance with LSA Const. Art. 3, §20 of 1974.

We trust that this answers your inquiry. If we can be of further assistance, please do not hesitate to contact me.

Sincerely,
WILLIAM J. GUSTE, JR.
Attorney General

Joint Position Statements Worth Repeating

The American Consulting Engineers Council and the Associated General Contractors of America have issued joint position statements on several important areas of activity. They include architect-engineer selection, "buy here," transportation, and infrastructure.

Architect-Engineer Selection

12/14/88

ACEC and AGC support the selection of engineering and architectural services

on the basis of qualifications and competence at a fair and reasonable fee to the client which is arrived at on a negotiated basis. Given the circumstances which prevail when the client is trying to identify and select A/E's, the qualifications-based selection procedure results in the development of a superior set of specifications and drawings for project construction. The emphasis on design quality and safety reduces life cycle project costs and helps limit litigation.

Buy Here

12/14/88

ACEC and AGC support preservation of an individual's right to work in the construction industry wherever qualified, and elimination of barriers to employment based on state and/or local legislation which gives a residency preference, percentage, or other selection advantage to local or in-state firms or individuals, as being trade barriers and not in the public interest.

Transportation

12/14/88

ACEC-AGC support sound engineering, design, development, construction and maintenance of the nation's transportation infrastructure. Given the vital role the transportation network represents to the nation's economy and to the quality of American life, ACEC and AGC support the following elements for a national transportation policy:

1. An effective partnership between federal, state and local governments and the private sector is necessary to achieve the goal of an improved national transportation network.
2. Dedicated trust funds financed through sufficient user payments to cover the costs of capital improvement of our transportation systems must be maintained. Trust funds should not be accumulated to offset the federal deficit or be diverted. To ensure the integrity of the trust funds, the funds should be removed from the unified budget. In addition, unwarranted exemptions from payment of excise taxes into the trust fund should be eliminated.



**Consulting Engineers Section
Warren J. Wilder
CEC/L Executive Director**



3. Long-term planning of transportation infrastructure projects is possible only if adequate long-term funding is assured through timely passage of multi-year authorization bills, administrative approval of the Interstate Cost Estimate, reduction in costly regulatory burdens, and greater flexibility in funding options, such as the use of toll facilities in highway construction.
4. When private sector engineering, architectural and surveying services are required, they should be selected by qualifications based selection procedures to assure agreement on project scope and a fair and reasonable cost of services to the public. Construction services should be selected through the single contract method after open competitive bidding.
5. Transportation revenues are most effective when they are expended on the basis of cost efficiency, quality performance, competence and through full and open competition.

Infrastructure

12/14/88

The infrastructure consists of all those public facilities which allow our society and economy to function. Usually owned and operated by a public agency or a regulated monopoly, the elements of the infrastructure protect our health, facilitate the movement of people and goods, shelter our government functions and support our private industrial and commercial economy. The elements of the infrastructure include transportation (roads, bridges, airports, ports, pipelines), environmental management (water treatment and supply, wastewater treatment, refuse disposal), public buildings (government buildings, health care facilities, education buildings), and energy distribution. Although mostly publicly-owned and financed, there are regional differences in ownership and management, and recent trends toward

privatization. However, all infrastructure elements are usually financed through some form of bonded indebtedness with repayment and operating costs paid through a user rate or tax revenue system.

ACEC-AGC recommend the following to assure a quality and cost effective infrastructure program.

1. The investment in infrastructure at all public levels has declined seriously. Adequate infrastructure investment is essential for continued economic growth, as well as a stimulus to private commercial and industrial investment, and thereby creates jobs in the private sector.
2. It is in the public interest to avoid uncoordinated infrastructure development. It is the responsibility of government at the lowest effective level to plan integrated infrastructure systems, regardless of the source of funding or responsibility for design, construction and operations.
3. A federal lead in infrastructure investment is essential to encourage public investment at all levels. Total investment in the infrastructure must be adequate to meet the national need and the federal share must be structured to generate the total investment required.
4. The key element in infrastructure funding must be dedicated, long-term funding mechanisms for all infrastructure categories. The funding must be dedicated to avoid shifting capital investment spending, as has occurred during the past 20 years. The funding must be long-term to provide stability in the infrastructure effort.
5. To assure maximum efficiency and cost effectiveness in the use of public funds for infrastructure projects, and to encourage private enterprise and employment, infrastructure construction must be accomplished by the private sector. When private sector en-

gineering, architectural and surveying services are required they should be selected by qualifications-based selection procedures to assure agreement on project scope and a fair and reasonable cost of services to the public. Construction services should be selected by the single contract method and open competitive bidding.

6. Infrastructure financing should be based to the maximum extent practicable on revenue generated through user fees, dedicated debt retirement, operating costs, and facilities maintenance and renewal.
7. Capital budgeting should be implemented and utilized at the federal level, as it is by state and local governments, to assure infrastructure investment consistent with long-term planning. It should be separated from non-capital federal expenditures.
8. State Infrastructure Banks should be established with initial capitalization from both the federal government and the states. It is imperative that the creation of the banks results in a net increase in infrastructure investment.

The American Consulting Engineers Council (ACEC), a federation of state and regional councils, is the largest national organization of independent consulting engineering firms. Over its 32-year history, ACEC has worked to improve business and professional conditions for consulting engineering firms. ACEC's more than 5,000 member firms represent 156,000 employees and annually design over \$100 billion in constructed public and private works.

The Associated General Contractors of America (AGC) is more than 32,500 construction industry firms, including 8,000 of America's leading general contractors, which are dedicated to (1) skill, integrity and responsibility; (2) open competitive bidding in the award of public construction contracts; and (3) use of the single contract method for procurement of construction services. **LE**

So U - Wanta Bee a PEe?

U-gotta be crazy. U'll git sued, kritized by them public, akused of being krooked (like them politicians) and U-wanta be a PEe. PEe mean Professional Injun-near.

Ooo O Kay if you insist — let me tell U what U gotta do.

First —

You git U-self a seven sighted coin and flip. Then you git U-self to LSU, Southern, La. Tech, McNeese, USL, UNO or Two-Lane. All dem school good yea — just axe dem Professors. They like to talk.

Second —

Pay attention for 4 years and git U-self a Bachelor of Something degree in Injun-nearing.

Third —

U take them Fun-due-mentals of Injun-nearing exam and pass. Dat make you an Injun-near-In-Transit (EIT).

Fourth —

Get U-self important Injun-near-In-Transit job. How U-know U dat U job is important Injun-near-In-Transit job? U ask, because U ain't dat smart yet to know. U ask PEe, "U think I work like an Injun-near?" If he say, "No way." U - got big problem. Ma, if he say, "yea, man" — then U say, "What's U - name and address." U see U need at least five of dem PEes later to say they know what U do U.

Fifth —

U don't lie, cheat, or steal for dem first four years. Why? Dat Board of Registration go around and check on U (for dem first four years). Look out, dem Board got one of dem Detectives. They call him Ben and he look for trouble, him.

Sixth —

After four years of work as an EIT (Engineer-In-Transit) you apply for PEe. Now here is where dat Board of Registration is smart yea — they say dat not even dem with dem Bent Keys (I believe they call dem Tau Beta Pi) can git four years of Injun-nearing experience in less than 1459 days after U git your Bachelor of Something degree in Injun-nearing.

Don't axe me how they come to dat conclusion, no — but dem Board know it all dem.

Seventh —

U fill out dat PEe application rite, yea. U bee sure U references are *good* friends. Sometimes dat hard for U to tell. U need to have five good PEe friends. Sometimes the Registration Board come back and say, "You need to have two (2) more PEe friends." You say, "Why?" Dem Board say, "U hush U mouth U, I ain't gonna tell you, why." Now U got BIG problem — U didn't have five (5) PEe friends to start with and dem Board want you to have two more.

Eighth —

The next thing U do is take the PEe exam. Dem Board know dat good parties are always on Friday night — so the exam is on Saturday (all day). Sometime you think dem Board don't want you to bee a PEe. They make every thing tough. Maybe dem Board want tough PEes?

Ninth —

Dem Board want you to work eight (8) Injun-near problems in eight (8) hours but it takes dem three (3) week to check *each* problem — dats about twenty-four (24) weeks — to see how wrong you are.

EXAMINATION SCHEDULE and APPLICATION DEADLINE DATES

EXAMINATION	SPRING		FALL	
	Application Deadline Date	Examination Date	Application Deadline Date	Examination Date
Fundamentals of Engineering Examination (8 hrs.)	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Principles and Practice Engineering (8 hrs.) Civil (Including Structural & Sanitary), Mechanical, Chemical, & Electrical	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Agricultural, Industrial, Metallurgical, Mining & Petroleum	NOT AVAILABLE		Aug. 1, 1989	Oct. 28, 1989
Fundamentals of Land Surveying Examination (8 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Principles and Practices of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Laws and Procedures of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	NOT AVAILABLE	

Apply at least six to eight months prior to an examination. Board approval must be given for anyone to be scheduled for an examination.

The applicant and the Board depend upon information provided by third parties in the processing of an application, therefore no assurance can be given that one will be scheduled for a specific examination.

Application Deadline date means that an application **must** be postmarked prior to or on the date specified so as to be given **consideration** for the examination. The Board may schedule an applicant for an examination later than that requested by the applicant. The Board cannot guarantee that the applicant will be scheduled for the examination initially requested.



**Paul L. Landry, P.E.,
Executive Secretary
Louisiana State Board of Registration for
Professional Engineers & Land Surveyors.**



Don't call dem Board to see how they git along either — Dis is what happen:

U - Say - "Hello Board"

Board Say - "Yes, can I help you."

U - Say - "Ma yea, did I pass?"

Board Say - "May bee."

U - Say - "What U Mean, Maybee."

Board Say - "Maybee U pass and maybe U don't pass."

U - Say - "When will I find out?"

Board Say - "We don't know."

U - Say - "Why - U don't know U?"

Board Say - "We don't grade dem exam, us, NCEE grade dem exam and they slow yea."

U - Say - "Who NCEE?"

Board Say - "Dat' our godfather in Clemson, South Carolina - the National Council of Engineering Examiners, they concil all us Boards."

U - Say - "Thank you."

Board Say - "I'm glad I could help you."

Tenth —

U git a letter from dem Registration Board dat start with "Congradulition, U lucky, U pass. U now PEE, U can no longer lie, cheat, or steal—."

You all heard of the Cajun two step — well this is the Cajun Board's ten steps toward Professional Engineering Registration. Pass it to U-friend. Thank U.

Engineers-In-Training Beware

Board Rule \$1501.F states in part "Passing the examination will constitute a credit toward registration for a period

of ten years after the date of the examination."

This means that the Board can and does require Professional Engineer applicants to *retake* the Fundamentals of Engineering Examination if it has been over ten (10) years since the applicant has taken and passed the Fundamentals of Engineering Examination. You can avoid this problem by applying for Professional Engineering Registration *before* the ten (10) year period is reached. **LE**

BOARD MEETING NOTICE

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors will hold its regular meetings at 1055 St. Charles Avenue - Suite 415, New Orleans, La. 70130 on the following dates:

1989

July 25

Sept. 26

Nov. 14

Fall 1989 Engineering Management Courses

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 fee per participant is \$325 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.

Please complete the following form and return it to the address below if you are interested in the program. (Classes will begin during the week of Aug. 28, 1989).

Name _____

Address _____ Phone _____

City & State _____ Zip _____

MAIL FORM TO:

Dr. L. Mann
Industrial Engineering Dept., CEBA Bldg.
Louisiana State University
Baton Rouge, Louisiana 70803-6409
Phone: 388-5112

Classes will be organized Wed., Aug. 16, 1989 in Room 503, LSU Medical Center, New Orleans - 7:30 PM, on Thurs., Aug. 17, 1989, in Room 3133 CEBA Bldg., LSU, Baton Rouge - 7:30 PM.

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.

AVAILABLE COURSES

- Course A — Modern Management
- Course B — Project Management with CPM/PERT
- Course C — Engineering Economy
- Course D — Financial Decision Making
- Course E — Automation and Computer Aided Manufacturing
- Course F — Basic Engineering Statistics
- Course G — Human Relations
- Course H — Cost Estimating
- Course I — Statistical Quality Control

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.

COURSES OFFERED

- ☐ Management
- ☐ Project Management
- ☐ Engineering Economy
- ☐ Finance
- ☐ Automation
- ☐ Statistics
- ☐ Human Relations
- ☐ Cost Estimating
- ☐ Quality Control

LOCATIONS

- ☐ Baton Rouge
 - ☐ New Orleans
 - ☐ Monroe
 - ☐ Alexandria
 - ☐ Shreveport
- I cannot attend on the following nights:

M _____ T _____ W _____ Th _____

Price Selected As Program Professor



Dr. Bobby E. Price, professor of civil engineering at Louisiana Tech, has been selected as the Faculty-in-Residence for the summer 1989 Washington Internships for Students of Engineering program.

The 10-week program, set for May 30 to August 4 in Washington, D.C., is for 16 junior—senior-level engineering students chosen nationwide. It is sponsored by professional engineering societies.

Price will be organizing discussion sessions for the students with leaders in the Washington area, assisting the students in the writing of policy papers and being a professional adviser and friend.

Dr. Barry A. Benedict, dean of Tech's College of Engineering, commented, "Dr. Price will represent an excellent choice as Faculty-in-Residence in the WISE program because of his combination of wide experience in public policy and professional matters, his excellence as a classroom teacher, and his warm and outgoing personality."

In addition to teaching, Price has held several administrative positions in Tech's College of Engineering, including director of undergraduate studies and director of graduate studies. He has just completed a year as president of the Louisiana Engineering Society.

The WISE program's goal is to educate future engineering leaders about the importance of the public policy process and the positive role that engineering can play in influencing decision-making that involves scientific and technical issues.

Students in the program will study the roles of engineers at government hearings as staff members of legislative and

regulatory bodies, as lobbyists, and as members of corporate staffs interacting with governmental agencies.

Quirk Named President of Walk, Haydel & Associates, Inc.



Peter R. Quirk, P.E., has been elected President and Chief Operating Officer of Walk, Haydel & Associates, Inc., by the Board of Directors. Gerald M. Haydel, P.E. and Frank H. Walk, P.E. remain active with the company on a full-time basis as Co-Chairmen of the Board.

After joining Walk, Haydel & Associates, Inc. in 1964, Mr. Quirk served the company as project director on several major projects. He was elected as Vice President in 1972 and as Executive Vice President in 1981. He assumed his duties as President on March 31, 1989.

"We are most fortunate to have Pete with us and this promotion to President affirms our continuing confidence in him which began in 1964 and has steadily increased over the years," said Frank Walk and Jerry Haydel, Co-Chairmen of the Board.

Mr. Quirk received a BS in Electrical Engineering from Louisiana State University. Upon graduation he entered the U.S. Army Corps of Engineers as a 2nd Lieutenant. Following his release from the Army, Mr. Quirk joined Continental Oil Company from 1959 to 1964 and then Walk, Haydel & Associates, Inc.

Walk, Haydel & Associates, Inc., one of the South's largest project management, engineering and construction management firms, was founded in 1959 by Frank H. Walk, P.E., and Gerald M. Haydel, P.E. Today, Walk, Haydel con-

tinues with a full-time, permanent staff of over 500 professionals and support personnel with offices in New Orleans, Baton Rouge, Mobile, and Little Rock.

Walk, Haydel provides a complete range of project management, engineering and construction management services to industrial, commercial and governmental clients throughout the United States and Internationally. As one of the principal project managers, designers and construction managers for the Louisiana Offshore Oil Port, Inc. (LOOP), Walk, Haydel's work was recognized in 1981 as the Outstanding Civil Engineering Project by the American Society of Civil Engineers (ASCE) and in 1982 by the National Society of Professional Engineers (NSPE) as one of the ten Outstanding Engineering Achievements in the U.S. In 1987, NSPE selected Walk, Haydel's design of the U.S. Department of Energy's Big Hill Strategic Petroleum Reserve Site as one of the six Outstanding Engineering Achievements in the United States. These very significant Awards are included among the many honors received by the firm.

Celebrating its 30th year of service, Walk, Haydel has for some years been ranked nationally among the top 15% of Engineering News Records' Top 500 Design Firms and in the top 10% among those doing Construction Management.

NSPE Ready to Confront NAAG

The National Society of Professional Engineers (NSPE) is suiting up to battle a new model agreement published recently by the National Association of Attorneys General (NAAG).

According to NSPE President Robert C. Gibson, P.E., "If the model agreement are employed by state and local governmental agencies, it would radically alter the relationship between state agencies as clients, design professionals and contractors. NSPE will work aggressively to educate state attorneys general and the public about the detrimental and inequitable effects of the NAAG model."

Gibson says NSPE is concerned over language that confuses the legal duties and responsibilities of the owner, design professional and contractor. NSPE also



Leta Bueto
Executive Director
Louisiana Engineering Society



objects to provisions requiring the design professional to "warrant" that the project will be completed within the established budget and that professional services are adequate and sufficient. Additionally NSPE opposes requirements that the design professional be responsible for supervising construction.

The NAAG model differs radically from similar documents published by the Engineers Joint Contract Documents Committee (EJCDC), supported by NSPE, and the American Institute of Architects.

In a recent letter to NAAG, Kenneth Henderson, P.E., NSPE member and chairman of the EJCDC, calls the provisions of the agreement "wholly inconsistent with the time-tested practices within the construction industry. . ." and asks to meet with NAAG representatives.

Already NSPE's Professional Engineers in Private Practice (PEPP) division has asked its state officers to lobby their attorneys general and inform the public. Says PEPP Chairman, Richard O'Malley, P.E., "As protectors of public health, safety and welfare, it is incumbent on engineers to educate taxpayers on why the NAAG forms will result in higher costs and lower quality in constructed services."

PEPP has distributed a fact sheet along with a prototype "letter-to-the-attorney general" to each state PEPP affiliate. According to O'Malley, PEPP is also encouraging states to organize member workshops and debates. PEPP will provide states with materials and is planning a national workshop during PEPP's and NSPE's national board meetings in Minneapolis this July.

PEPP is also preparing a publication which will analyze the legal implications for engineers confronted with the NAAG model. The document should be available this summer.

NSPE Urges Congress to Increase NIST Budget, at DOD's Expense, If Necessary

In testimony before a House appropriations subcommittee, the National Society of Professional Engineers (NSPE) has called on Congress to significantly increase the budget for the newly created National Institute of Standards and Tech-

nology (NIST), even if the added funds must come out of the Department of Defense budget.

Dr. H. Lee Martin, P.E., president of TeleRobotics International, speaking on behalf of NSPE, stressed the need for federal leadership in civilian technology. He noted that currently DOD often must fill this void. "In this next fiscal year," Martin said, "the Congress will choose to either fund NIST and begin its visionary, coordinating role or continue the status quo of Congressional/DOD bailouts for lost leadership in the critical technologies."

NIST was created by the 1988 Omnibus Trade Act that expanded the mission of the National Bureau of Standards in strengthening the U.S. manufacturing enterprise, a key to improving U.S. competitiveness in the global marketplace.

Martin pointed out that under current FY 1990 funding of \$155.6 million, NIST will be barely able to carry out the work it has traditionally performed when it was the National Bureau of Standards. He noted that the status quo in the United States is for Congress to respond to the loss of leadership in a given technology with a patchwork of appropriations and for DOD to "find some sympathy money" for the given cause.

"This concert of Congress and DOD happens after the technology leadership is clearly lost and the constituent cry is at the panic level," Martin noted. "By not appropriating the new functions at NIST, we set ourselves into this mode of operation for some time to come."

He further noted, "The money DOD is spending on Sematech (a computer chip research consortium) and High Definition Television, while related to defense interests, is basically the propping up of commercial technologies. The budget on these two props is nearly equal to the entire NIST budget, which is being cut back in the face of an expanded mission."

Martin praised the new technology transfer programs in NIST and the Regional Centers for the Transfer of Manufacturing Technology in particular, for their potential in helping U.S. manufacturing firms compete in international markets by giving them access to advanced technology. He also described to

the subcommittee members the work of an NSPE Manufacturing Technology Centers Review Committee that will provide an independent evaluation of the three funded centers to help determine their effectiveness. Martin noted that none of these programs is slated for FY 1990 funding as originally planned.

Tests of Engineering Aptitude, Mathematics and Science National Competition Winners Announced

Jeanne D. Perry, President of the Junior Engineering Technical Society and Director for Management Education at the New Jersey Bell Corporate Training Center, today announced the State Team from Colorado as the National Champions for the 1989 Teams National Level Competition. John R. May of the Civil Engineering Department from the University of Colorado at Denver coordinated the competition.

The Tests of Engineering Aptitude, Mathematics and Science (TEAMS), now finishing its Tenth year, is a high school academic competition sponsored by JETS and hosted through the support of colleges, universities, engineering societies, corporations and organizations nationwide.

Thirty-nine state teams, composed of the top scorers from six academic areas following the annual state TEAMS event, competed in late April. This year's problems covered a wide range of topics from engineering science to applied engineering problems in disciplines such as industrial, mechanical, electrical and civil engineering. Competing teams, working as a group, had to solve sixteen complex problems within three hours.

The winning team, their coaches, parents and sponsors will be hosted at an awards reception in June. Students will be acknowledged for their achievement when awards are presented by JETS, Hewlett Packard, Who's Who is American High School Students, Presidential Classroom, John Fluke Manufacturing and Small Computer Company, Inc.

A list of the Top Ten 1989 National TEAMS Winners follow: Colorado, the #1 TEAM, scored 1284 out of a possible

continued on page 16

1988-89 Louisiana Engineering Foundation Graduate Fellowship



Max J. Patin, University of Southwestern Louisiana, received the Louisiana Engineering Foundation 1988-89 graduate school fellowship at the Lafayette Chapter, Louisiana Engineering Society meeting on June 1, 1989. The \$1500 Foundation Fellowship is presented annually to an engineering student enter-

ing or enrolled in graduate school and who expresses a sincere desire to enter the teaching profession at the university level. James L. Meyer, P.E., President of the Foundation, made the presentation.

Patin was born in Lafayette, Louisiana, the son of Mr. & Mrs. Fabian A. Patin. He attended Acadiana High School in Lafayette for three years and then attended the Louisiana School for Math, Science and the Arts in Natchitoches, Louisiana, where he graduated in 1985. Patin graduated in 1989 from the University of Southwestern Louisiana with a degree in Electrical Engineering-Computer Option. He has maintained a 3.897 overall grade point average and a 4.0 in all engineering courses. In his four years at USL, he has acquired the Keith Lindley Scholar Scholarship a one-time award for an outstanding science and engineering upperclassman, the Student Government Associate Scholarship, and the Academic Scholar Scholarship. Additional honors include being listed in *Who's Who in American Colleges and Universities*.

After graduation Patin plans to work as an intern before continuing his graduate education in the fall at USL. He intends to pursue Master and Doctorate degrees in computer engineering. Afterward Patin wishes to remain in academia for teaching and doing research.

Patin is single, a catholic and his hobbies include sailing, skiing, scuba diving and all outdoor activities.

The Louisiana Engineering Foundation is a tax exempt organization founded in 1978 by the Louisiana Engineering Society. Its' goals are to provide opportunities to practicing engineering professionals for development programs; to provide scholarships to serve the educational needs of young men and women pursuing a career in engineering; and to maintain a Center to serve all engineers. The Foundation is headquartered at 1213 Nicholson, Baton Rouge. **LE**

POTPOURRI

Continued from page 15

1600 points. If you are interested in recognizing the students, schools, coaches and hosts from your state who competed at the national level please contact the JETS office for a listing.

10 TOP NATIONAL "TEAMS" FOR 1989

- | | |
|--------------|----------------|
| 1. Colorado | 6. Oregon |
| 2. Ohio | 7. New Jersey |
| 3. Tennessee | 8. California |
| 4. Texas | 9. Connecticut |
| 5. Virginia | 10. Utah |

Jets is a national non-profit youth organization emphasizing the understanding of engineering and technology, and competency in mathematics and science for high school students. For more information about TEAMS, write to: Jets, 1420 King Street, Suite 405, Alexandria, VA 22314-2715 or call 703/548-5387. **LE**

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Calendar of Events

We invite all technical and professional organizations to submit their meeting dates for publication in the *Louisiana Engineer* to: Editor, P.O. Box 2683, Baton Rouge, LA 70821

June 5-6, 1989

State Board of Registration Meeting,
New Orleans, LA

June 9, 1989

LES Board of Direction Meeting,
Shreveport, LA

June 9-10, 1989

CEC/L Annual Meeting,
Sheraton Hotel, Baton Rouge, LA

July 23-29, 1989

NSPE Annual Meeting,
Minneapolis Marriott City Center,
Minneapolis, MN

July 24-25, 1989

State Board of Registration Meeting,
New Orleans, LA

September 8, 1989

LES Planning Conference,
Hotel Bentley,
Alexandria, LA

September 9, 1989

LES Board of Direction Meeting,
Alexandria, LA

October 18-21, 1989

LES Annual Meeting, Ramada Inn,
Baton Rouge, LA

January 14-20, 1990

NSPE Winter Meeting,
Hilton Beach & Tennis Resort,
San Diego, CA

NEW REGISTRANTS Of State Board

CIVIL

Raymond R. Arent
Baton Rouge, LA

Richard M. Bub
Mequon, WI

Walter Comeaux, III
Alexandria, LA

Ross A. Dalland
Brooklyn, NY

Bruce E. Erikson
Renton, WA

Antonio S. Habaradas
Tujunga, CA

Craig M. Hanchey
Jackson, MS

Ronald J. Hartmann
Muncie, IN

Danny J. Hebert
Raceland, LA

Bruce E. Kromer
Keller, TX

Claudia M. Montero
Norcross, GA

John T. Morrison
Raleigh, NC

Gary R. Myers
Spring, TX

Michael R. Pittman
New Orleans, LA

Charles J. Nelson
Park Ridge, IL

Robert J. Shupe
Bedford, TX

Ronald M. Cass
Metairie, LA

ELECTRICAL

James F. Ridge
Minden, LA

MECHANICAL

Albert I. Cho
Glenview, IL

J. Vernon Christian
Kingsport, TN

Norman E. Connacher
Federal Way, WA

Vaughn R. Hill
Lexington, KY

Perry K. Choat
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ELECTROSTATIC PLOTTING

New LES Members

NAME	GRADE	BRANCH	EMPLOYER
ALEXANDRIA			
E. T. Farley	Assoc.	IE	Dresser Industries
Jo A. Hutchison	Assoc.	EE	Central Louisiana Electric Co.
Rodney Choate	PE	CE	LA DOTD
BATON ROUGE			
Kelly C. Fryou	Assoc.	CE	CH2M, Hill
Larry L. LaFitte	PE	CE	Dow Chemical Co.
David F. Odom	Assoc.	CE	Pvburn & Odom, Inc.
Peter H. Jensen	Assoc.	CE	
David P. Nesbitt	PE	CE	
Norman L. Goodson	PE	ME	
Stan J. Prutz	Assoc.	EE	Murco Systems
W. Daniel Nesbit, Jr.	PE	EE	Nesbit Engineering, Inc.
Ripley W. McClure	PE	CE	
Mark C. Danku	PE	CE	Lacon Engineers, Inc.
BAYOU			
Leon Proper	Assoc.	CE	
Richard A. Kraemer	Student		
Daniel C. McDonald	Student		
LAFAYETTE			
Annette G. Hebert	Assoc.	PE	
David W. Boulet	Student		
Stephen K. Barry	Student		
Mark A. Johns	Student		
Aileen P. McGowan	Student		
Alfred E. Nothaft	Student		
Hoang J. Pham	Student		
Scott T. Sheppard	Student		
LAKE CHARLES			
Wayne L. Harris	Assoc.	CE	Meyer & Associates, Inc.
MONROE			
Walid R. Alaywan	Student		
NEW ORLEANS			
Laura A. Schrader	Student		
Joseph L. Cooper	Student		
Virginia A. Felton	Student		
Stuart Williamson	Assoc.	CE	U.S. Army Corps of Engineers
Keith M. Meyer	Assoc.	CE	J. J. Krebs, Inc.
Bruce M. Bordelon	Assoc.	ME	

Continued on page 18

NEW LES MEMBERS

Continued from page 17

NAME	GRADE	BRANCH	EMPLOYER
Timothy J. Hicks	Assoc.		
Gustave A. Von Bodungen	PE	ChE	
Ashley A. Boulware	Student		
Michael B. Hedge	Student		
William J. Palermo	PE	ChE	W. S. Nelson & Company
Leonard H. Milacek	PE	ME	University of New Orleans
David C. Murla	PE	CE	Gregory C. Rigamer & Assoc., Inc.
Lee P. Dupont, Jr.	PE	ME	Dupont Engineering
Leo P. Champagne	Assoc.	IE	South Central Bell
James P. Mayne	Assoc.	ME	New Orleans Public Service Inc.
David M. Ackermann	Student		
Esma Al-Dahir	Student		

Tara Bennette	Student
Michelle Borne	Student
Edward Brunet, Jr.	Student
Michael Coon	Student
Patricia Davenport	Student
Scott Davis	Student
Desiree S. Jamier	Student
Shawn Johnson	Student
Scott Landry	Student
Kenneth McKinski	Student
Lynn Sevey	Student
Edward J. Welsh	Student

SHREVEPORT

Thomas J. Epperson	PE	EE	SAW, Electric Power Co.
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ENGINEERING EDUCATION

YESTERDAY, TODAY AND TOMORROW

by: James S. Janssen, P.E.

Engineering graduates of the 1920's and 1930's, some still practicing today, are constantly amazed at the progress which has been made in the practice and development in their profession. However, they find it difficult to understand that professional engineering as it is today can still be taught in the same four year span that they went through half a century ago.

There has been considerable debate about the advisability of broadening the scope of engineering education in the United States. Professor Gerald Wilson, Dean of Engineering at Massachusetts Institute of Technology, is quoted in the *Engineering Times* as proposing that engineering schools "not only broaden the undergraduate engineering program, but that we design a new graduate curriculum, as well." He feels that our engineers are suffering in world wide com-

parison because they are "too narrow in their understanding." This could be interpreted as a belief that engineering education should more closely be patterned after that of the other professions; medicine, law and even architecture. Other educators feel that extending the educational requirements would result in diminished enrollment in the number of students in engineering. Even though engineering salaries have kept pace with inflation and the job offerings for graduates have been good, enrollment in engineering schools has shown a slight but growing decrease. Some feel that this is due to a loss of prestige of our profession as compared to others.

Again quoting *Engineering Times*, as published by the National Society of Professional Engineers, a project has been initiated to consider a redesign of our traditional undergraduate engineering

curriculum. Under the sponsorship and with financial aid from the National Science Foundation, the American Society of Mechanical Engineers, and nine universities; Drexel Institute, Texas A&M, Purdue, Michigan, M.I.T., Pennsylvania, West Virginia, the University of Texas and California State Polytech have undertaken a momentous project. The objective is "to encourage and support the intellectual effort necessary to restructure the curriculum and teaching methods in the light of present-day and near-future technical realities." Spokesmen Bassan Shakhshiri and John White of the National Science Foundation feel that the project will have a broad impact on engineering education and that it will assist in giving the engineers of the future the best education possible. It will be extremely important to gather opinions from practicing engineers to compare their views with those of educators. **LE**



Are You Taking A Free Ride Or Are You An Active Member Of Your Professional Organization?

LOUISIANA ENGINEERING SOCIETY APPLICATION FOR MEMBERSHIP

Return to LES, P.O. Box 2683
Baton Rouge, LA 70821

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

Please assign me to the Chapter checked below:

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

Date _____

Signed: _____

PRACTICE DIVISION PREFERENCE (Check One)

☐ Government ☐ Private Practice
☐ Industry ☐ Education
☐ Construction

Form No. 100 E

PLEASE COMPLETE THE FOLLOWING SPACES

- Name _____
First Initial Last
- Home Address _____
Street City and State Zip Code
- Business Affiliation _____
Position or Title
- Business Address _____
Street City and State Zip Code
- Telephone: Home _____ Office _____
Please Send All Mail to: Home _____ Office _____
- REGISTRATION: PE ☐ PLS ☐ EIT ☐ None ☐
State _____ Reg. No. _____ Branch _____
- Are you now affiliated with NSPE? Yes ☐ No ☐ If yes, what state? _____
- If no, do you want to become a member of NSPE? Yes ☐ No ☐
- Have you ever been a member of LES? Yes ☐ No ☐
- Birth Date _____ Age _____ Spouse's First Name _____
- Education _____
School Date Graduated Degree Obtained
- Major Engineering Discipline _____

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

- _____
- _____
- _____

States Fear Use of Gas Tax To Reduce Federal Deficit

Fearful that Congress will enact a federal gas tax increase to help pay off the budget deficit, state governments are scurrying to pass their own revenue increases to cover an estimated \$294 billion price tag for road and bridge improvements, according to a report from The Road Information Program (TRIP). The TRIP annual review of state highway conditions and funding surveyed all 50 states and the District of Columbia on their ability to cope with growing road and bridge needs and diminishing revenues.

TRIP found that nearly 62% of the nation's roads—some 1.3 million miles—and 41% of the bridges are deficient. It will cost some \$243 billion to repair the roads and about \$50 billion to rehabilitate the bridges.

As a direct result of these deficiencies, the average U.S. driver wastes \$99.60

per year—more than \$16 billion nationwide—because of wasted fuel, excess tire wear, and added vehicle repairs.

State governments increasingly are shouldering the burden for highway improvements, and most believe a federal gas tax for deficit reduction would hamper their efforts to make the highways safe and efficient, according to TRIP.

Of the 44 states responding to a question on the proposed federal gas tax increase, 41 said such a tax would devastate their ability to fund construction and rehabilitation programs.

"We will have nowhere to turn if Congress says, 'Not only do we refuse to increase federal assistance for transportation, but we also want to preempt your ability to raise the funds at the state and local levels,'" says Illinois Transportation Secretary Gregory Baise.

"Highways have traditionally been built on a pay-as-you-go basis in Missouri," notes John Cozad, commissioner of the Missouri Highway and Transportation Department. "If the federal government breaks that tradition, there will be increasing pressure to use fuel taxes for purposes other than roads."

Hedging against a possible federal gas tax hike, states acted quickly during 1988 to raise highway funding. TRIP reports state governments sought various funding methods in the face of growing highway needs and decreasing revenues. Among them:

- Seventeen states increased gasoline or diesel taxes during 1988;
- Twelve states raised fees and taxes on trucks and buses.

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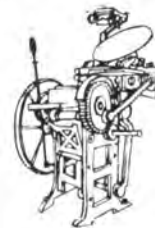
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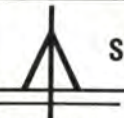
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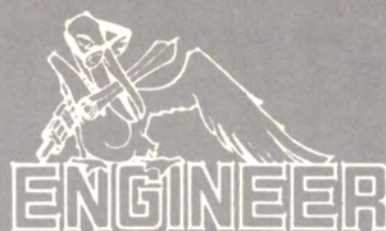
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The LOUISIANA ENGINEER is the official publication of the Louisiana Engineering Society. The LOUISIANA ENGINEER is the journal of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. The magazine is published in February, April, June, August, October and December. Subscription \$1.65 per year for engineers registered in Louisiana and non-registered members of the Louisiana Engineering Society. One dollar and sixty-five cents of each LES member's annual dues is set aside for six issues of the LOUISIANA ENGINEER. 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. ISSN : 0024-6794

Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318; 1213 Nicholson Drive, Baton Rouge, La.



James W. Reeves, Ph.D., P.E.
President
Louisiana Engineering Society

Although my service as President of LES continues until October, this is my last article for the *Louisiana Engineer*. It has been my pleasure to have the help and support of a great group of engineers who served as state and chapter officers, chairmen and other positions of responsibility.

The chapters have had effective leadership and generally performed very well. Committees and Practice Divisions have been very active and most have successfully progressed toward their goals. We had outstanding success in our legislative program. Chairman Skip Ritter, P.E., has published a report in this issue. Special thanks go to several members who have worked on special projects requiring significant time and effort. Bobby Price, P.E., chaired a Task Force on Continuing Professional Development which will recommend a policy for LES. Jim Meyer, P.E., chaired a task force which is developing a recommendation on the relationship between LES and NSPE. Lamon Moody, Jr., P.E., once again gave freely of his time and talents in helping the legislative committee pass our bills through the legislature. Garland Pennison, P.E., developed an excellent new membership application package and found sponsors among our engineering firms to fund the printing. We will thank these firms in an appropriate way. Garland also accompanied our MATH-COUNTS team to the National competition in Washington, D.C.

We are fortunate to have a very effective and dedicated executive director in Leta Bueto. Her help has been invaluable to me as President, and she has worked very hard to hold down expenses in these difficult times. We are pleased to welcome Cindy Forbes to the office staff as a replacement for Debbie Noel and look forward to working with her.

As I have stated many times, my main goal for the year is to reverse the declining membership in LES which we have experienced in the last few years and to have a positive growth for 1988-89. This is very

important if we are to continue as an effective force for professional engineers in the state. A recent membership report from Chairman Garland Pennison, P.E., is very encouraging. His projection estimates only a small decline in membership for the year; however, if we all will redouble our efforts to get new members and to retain delinquents, we could experience a positive growth. The Chapters have done a good job so far in membership. We need an exerted effort from everyone in the last few months to reach this worthy goal. *PLEASE HELP.*

We offer congratulations to Dudley Hixson, P.E., who has taken over as national PEPP Chairman for NSPE for 1989-90. He was installed at the recent NSPE Annual Meeting in Minneapolis, Minnesota. Dudley has outlined a very broad agenda for PEPP for next year, including the infrastructure problem which I have mentioned several times this year. He has held numerous offices in LES at the chapter and state levels and in NSPE. We all wish him well in the coming year.

Two important statewide LES meetings are scheduled during the remainder of the year. The Planning Conference will be held in Alexandria on Friday, September 8. This conference is extremely important in assisting the new chapter officers and committee chairmen in developing their plans and programs for the upcoming year. The Annual Meeting will be held in Baton Rouge on October 18-21. Some interesting and useful seminars will again be on the program and committees and practice divisions will be kicking off the new administrative year.

In closing, I thank all Society members for giving me the opportunity to serve as your President. It has been an honor and a privilege. I know that the Society will be under superb leadership with Blaise Carriere, P.E., the incoming President, and all of the new officers and new Board. I offer my congratulations and pledge my support to all of them. **LE**

Bayous and Rivers of Louisiana

by James S. Janssen, P.E.

In any discussion of the rivers and bayous of Louisiana, the order of importance might prove to be controversial, so they will be presented here in the conventional form of reading from left to right. In addition to avoiding any dissension that might arise from an attempt at assigning precedence according to length, volume of discharge, or greatness in any capacity, this method will give some general idea of the relative location of each stream. Unfortunately, all of the systems cannot be included in this brief summary.

The westernmost river of the state is the Sabine. It is difficult to determine how this rather sluggish river that flows through flat land received its name since the Sabine people of Italy inhabited a mountainous region east of the Tiber river and not a flat land. The Sabine now serves the purpose of maintaining the border between Louisiana and Texas for most of its length. However, near Logansport, the river stretches off in a northwesterly direction to lose itself in the rolling hills near Longview, Texas while the border assumes a direct northern route up to Arkansas.

Actually, the Sabine was a line of division long before it assumed its present duty of separating two of the United States. The early settlers of French Louisiana and the Spaniards in Mexico had argued and fought about where their respective rights terminated. The towns of Natchitoches, Louisiana and Nacogdoches, Texas, roughly one hundred miles apart and at nearly the same latitude (and named for the same Indian tribe), were the outposts for the respective contending national groups.

Three years after the United States acquired the Louisiana Territory in 1803 an agreement was reached between Spain and the new owner of Louisiana whereby a "no-man's-land" fifty miles wide and extending on both sides of the Sabine was established. Since neither nation exercised control over this area, there was no law and order here until 1826 when the river itself became recognized as the actual border between the United States and the independent nation of Mexico. It remained the border when Texas became independent in 1836.

The Sabine again became a scene of violence during the Civil War when Federal gunboats attempted to invade Texas. A small force of forty-two Confederates with six land-based cannons

repelled the invaders and captured three of the attacking boats on September 9, 1863 in the Battle of Sabine Pass near the small Texas town of Sabine. The ten-mile-long stretch of the river between Sabine Lake and the Gulf of Mexico is known as Sabine Pass and is navigable. Navigation above Orange, Texas and the Intracoastal Canal becomes more limited as the river narrows and is stopped by the dam that created Toledo Bend Reservoir. In the few years of its existence, this 15 by 74 mile lake has become a very popular pleasure area for fishing, boating, and camping.

The next river to the east is the smaller Calcasieu which meanders generally southward from a point roughly at the latitude of Alexandria just above Leesville. Again, the portion between Calcasieu Lake and the Gulf is known as Calcasieu Pass. It, as well as the lake and the river up as far as Lake Charles, have been dredged to create a deepwater channel capable of handling super-tankers, thus making Lake Charles an important port. Jean Lafitte, whose operations reputedly covered a large territory, is supposed to have used Contraband Bayou in Lake Charles as a hideaway for some of his booty.

Farther to the east is the Mermentau River which at its upper reaches is really Bayou Nezpique (sharp nose). It is fed by various marsh-draining tributaries such as Bayou des Cannes, Bayou Queue de Tortue (Turtle Tail), etc., before feeding into Grand Lake. A wide stretch above Grand Lake is known as Lake Arthur. It

is here that the Intracoastal Canal crosses this stream. The Mermentau then proceeds to the Gulf by way of Little Pecan Lake, Upper Mud Lake and Lower Mud Lake.

The Vermillion River, also short, flows from above Lafayette down past Abbeville into Vermillion Bay which is connected to the Gulf of Mexico by a wide, shallow opening called Southwest Pass. In its lower, sluggish reaches it is known to some of its older inhabitants as Vermillion Bayou. The stretch near Lafayette has many large, beautiful homes along its banks which may be viewed from a local excursion riverboat.

The character of Bayou Teche to the east changes many times, much like that of a versatile actor. In its upper reaches near Port Barre it is a narrow, one-directional, flowing stream. As it wends its way generally southeast to join the Atchafalaya system, it takes many changes of direction and increases its flow and width leaving the pines behind to pass among the willows and cypresses. Along its path it passes such towns as Grand Couteau, Arnaudville, Breaux Bridge, St. Martinville, New Iberia, Jeanerette, Baldwin, and Franklin. It is followed by roads and highways—principally U.S. 90 and Louisiana 86—on either side for much of its length.

Many years ago the Teche was the chief means of transportation through this typically Cajun country and for over one hundred miles of its length it supplied a route for everything from pirogues to paddle steamboats. Cane and

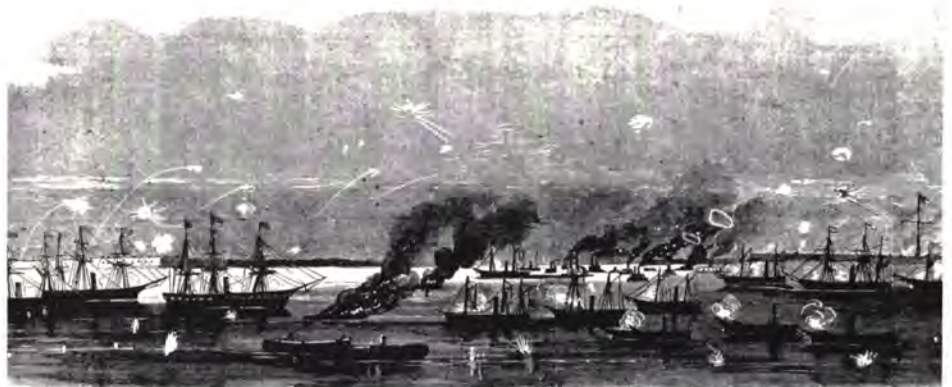


Illustration from *Harper's Weekly* magazine for May 24, 1862 showing the "Bombardment of the Rebel Forts Jackson and St. Philip, April 24, 1862." There is a fine large oil painting of "Farragut's fleet passing the forts below New Orleans" by Mauritz F. H. DeHaas now on temporary display at the Historic New Orleans Collection Auxiliary Gallery at 521 Tchoupitoulas Street. It will be moved to the main gallery at 533 Royal Street after November.



Illustration from *Harper's Weekly* magazine from February 14, 1863 showing "The Fight at Corney's Bridge, Bayou Teche, Louisiana and Destruction of the Rebel Gun-boat "Cotton," January 14, 1863."

cotton were the chief exports while household goods and food came back up the bayou right along with passengers. According to a sketch in *Harper's Weekly* magazine for February 14, 1883, a Confederate gunboat, the "Cotton," was outnumbered and destroyed by three Federal gunboats in January, 1883 at Corney's Bridge on Bayou Teche. The extreme lower section of the Teche near Morgan City and Berwick now teems with industry largely because of offshore oil exploration and production along with the allied shipbuilding, repair and transportation industries. The Teche is much more than the sleepy bayou portrayed by Henry Wadsworth Longfellow in his idyllic poem "Evangeline."

Farther to the east, and also following a southeast course from its origin at the confluence of the Red and Old rivers, is the Atchafalaya which flows on down to the Gulf of Mexico. This large stream has a dual usage. It is now actually a continuation of the Red River, but it also acts as a controlled distributary of the Mississippi River during flood stages on the Father of Waters. Before the Old River controls were installed and put into operation, and under certain conditions of high water in the Red and low stages in the Mississippi, the normal east to west flow through Old River would be reversed and the lower Mississippi would assume a reddish tinge caused from the influx of Red River water. This would usually occur for a few weeks each year and would be immediately obvious to the eye.

The towns of Simmesport, Melville, and Krotz Springs, plus a few smaller towns, are located on the upper portion of the Atchafalaya, but none are found

along the lower swampy or marshy stretch until it reaches Morgan City. Guide levees are set well back and the whole basin acts as a controlled spillway or major high water outlet for the Mississippi River during flood stage. To relieve the bottleneck between Six Mile Lake (really a wide section of the Atchafalaya just above Morgan City and the Gulf of Mexico), the United States Corps of Engineers built an additional parallel outlet. This so-called Wax Lake Outlet, about 10 miles east of the southern-most stretch of the Atchafalaya, has done much to control water levels in and near Morgan City, Louisiana.

Traffic on the upper Atchafalaya is not very heavy and consists mostly of barges and towboats. The lower portion of the Atchafalaya near and below Morgan City is very busy with petroleum-based boats, offshore rigs, and related activity. The principle products of the basin are wood (although most of the cypress is gone), fish, and especially large quantities of luscious crawfish.

Snaking down southeasterly between the Atchafalaya and the Mississippi rivers from Donaldsonville to the Gulf is magnificent Bayou Lafourche, "the Fork." Whether so named because it is a fork taking off from the Mississippi, or because its mouth is a two-tined fork, is of no concern to its inhabitants who live practically next door to one another for approximately one hundred miles from Donaldsonville to below Golden Meadow. Louisiana Highway No. 1 runs from Grand Isle up the western bank of the bayou and beyond it to past Shreveport. The section along the bayou is called the longest street in the United States. It is said that the inhabitants can

pass a message or a bit of gossip along it from the Mississippi River to the Gulf without leaving their front porches.

At one time Bayou Lafourche had been cut off from the Mississippi by the levee system, but now river water is siphoned over the levee to provide the downstream settlements with fresh water as far as Grand Isle. The upper, drier land along and near the bayou supports some fine old plantation houses while the lower stretches are more apt to support smaller "Cajun cottage" types. Towns along the way include Donaldsonville, Napoleonville, Thibodaux, Raceland, Larose, Golden Meadow, and finally Leeville. Cane, cotton, and other crops are grown along the upper half of Bayou Lafourche while the lower or tidal section is largely devoted to fishing, crabbing and shrimping. While there are a few vegetable gardens close to the bayou, the visitor is mostly impressed with the size and variety of the vast fleet of shrimping and fishing vessels. The hurricane tides which have always been a threat to this rich lowland will soon be controlled by a protective system consisting of a gate across the bayou with levees extending east and west.

So much has been written about the Mississippi River that no attempt will be made here to present a complete picture of this mightiest of all American rivers which is the heart-blood of Louisiana, Mississippi, and much of the central United States. It is a blessing when it behaves and dutifully carries its load of towboats and barges, oceangoing freighters and tankers, ferryboats and excursion riverboats, and provides us with an unlimited water supply for our homes and numerous petrochemical and other types of plants. But it can be a curse when it goes on a rampage, breaking levees, flooding fields and roads, and driving people from their homes. We now believe that we have the river tamed with the good work of the U.S. Corps of Engineers and various levee boards who have utilized levees, revetments, reservoirs, spillways, floodways, and dredging to make our homes safe. At least we hope so!

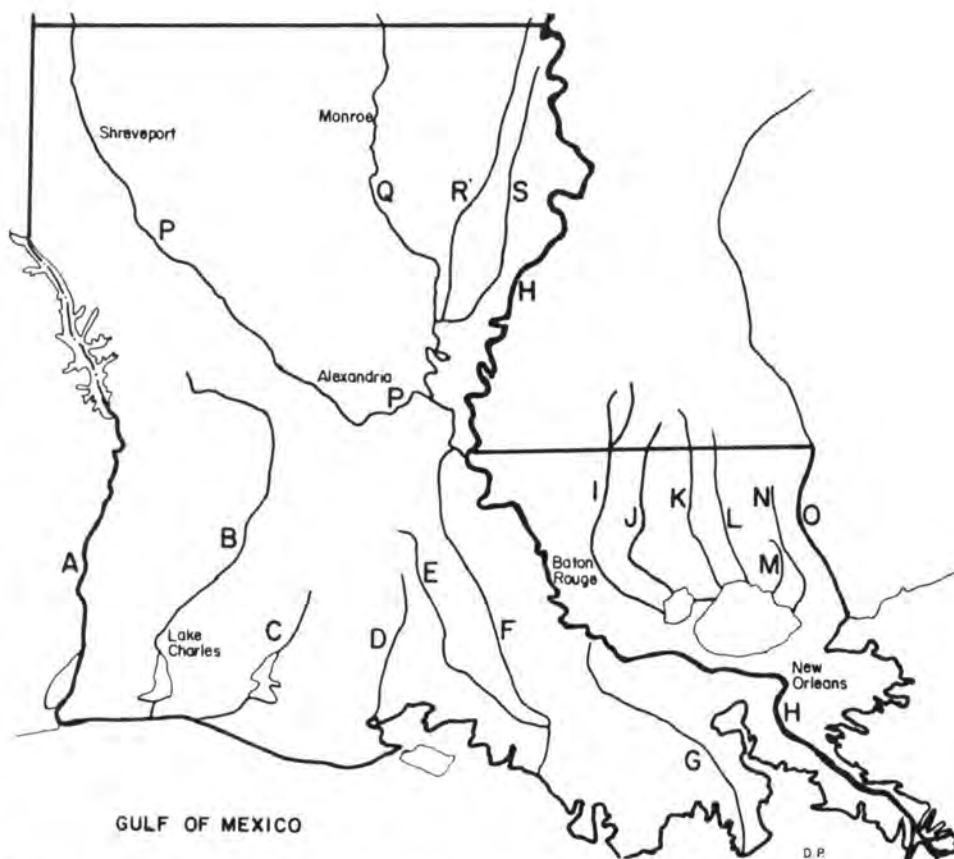
As Mark Twain pointed out in his book *Life On The Mississippi*, quoting from the Old Testament, Ecclesiastes VII, 13: "Consider the work of God; for who can make that straight which He has made crooked?" It is a long and crooked 2,340 miles from Lake Itasca in Minnesota to the Head of Passes in extreme southeast Louisiana. The Mississippi passes important U.S. cities like Minneapolis-St. Paul, St. Louis, Memphis, and then

Baton Rouge and New Orleans in Louisiana. It goes past bluffs and islands; locks and wharves; landlocked "oxbow" lakes that it created by taking short cuts to eliminate loops or bends; large islands; and "towheads," as the smaller islands are still called; beautiful old plantation homes which may be visited by the Great River Road; and shantytowns that should be avoided. It provides, in addition to millions of gallons of industrial, drinking, and irrigation water, many square miles of water for recreation, boating, swimming, sailing, skiing, and even limited ice skating. The river provides some wonderful local and extended excursion rides on luxurious paddlewheel steamboats.

There are several small rivers and bayous which flow down through the Florida Parishes and ultimately empty into lakes Maurepas or Pontchartrain. These include the Amite, Tickfaw, Tangipahoa, Tchefuncte, Bayou LaCombe and Bayou Liberty in Slidell. These rivers are much the same in that they flow southward from the sandy pine woods and then through low swampy lands as they approach the lakes which they keep largely fresh.

There is a proposal to build a flood control dam and a hydroelectric power plant (a first for Louisiana except for Toledo Bend on the Louisiana-Texas border) on the Amite River northeast of Baton Rouge near the town of Bluff Creek. Side benefits would be fishing, boating, and lakeside camping with cottages on the proposed 15,000-acre reservoir. The chief use of these freshwater streams now is recreational. They are used for swimming, water skiing, fishing, boating, or merely tubing downstream with refreshments in hand—not exactly white-watering but pleasurable on a hot summer afternoon. These streams are not as clean as they once were, but efforts are being made to reduce or eliminate pollution.

The most easterly of our Louisiana streams is the Pearl River which Louisiana shares with Mississippi. In fact, it serves as the border between these two states for some sixty miles. The Pearl originates in central Mississippi just north of the town of Philadelphia, flows southwest into the Ross Barnett Reservoir, past Jackson, Mississippi and then almost due south past Bogalusa to the Gulf of Mexico. As it approaches the Gulf it divides into Pearl River (at the state border), East Middle Pearl River, Middle Pearl River (slightly west), West Middle Pearl River (farther west), and West Pearl River (farthest west). During the



Map of Louisiana showing streams described in this article, Sabine River (A), Calcasieu River (B), Mermentau River (C), Vermillion River (D), Bayou Teche (E), Atchafalaya River (F), Bayou LaFourche (G), Mississippi River (H), Amite River (I), Tickfaw River (J), Tangipahoa River (K), Tchefuncte River (L), Bayou LaCombe (M), Bayou Liberty (N), Pearl River (O), Red River (P), Ouachita River (Q), Bayou Macon (R), Tensas River (S).

Civil War there was an encounter between Federal and Confederate gunboats on the lower Pearl River. There is a submerged wreck of a boat, partly visible during low water, in the river near the I-10 bridge which is reported to be what is left of the vanquished Federal craft. A navigation canal was dug some years ago parallel to a portion of the West Pearl River below Bogalusa in order to improve navigation to that papermill town.

This completes the sweep from west to east of the principal rivers of southern Louisiana. Following the same approach of reading from left to right in the northern part of the state, the Red, which originates in eastern New Mexico and enters our state from Arkansas due north of Shreveport, should be considered first. It proceeds southeasterly cutting a diagonal line across much of the state, and as mentioned earlier, ends at the junction of Old River and the Atchafalaya. The Red River differs from the south Louisiana rivers in several ways. Its water, though reddish, is clearer than most of the southern streams (except those in the Florida Parishes), it flows more swiftly, has higher banks, and thus is less prone to flooding and does not end up in a swamp, marsh, lake, or gulf.

When first seen by persons other than Indians, the Red River was blocked by logs, trees, and other debris jammed together from bank to bank from well into Arkansas and running one hundred sixty miles south to a point about halfway between Shreveport and Alexandria near Natchitoches. Navigation of the river was impossible. This, plus the lack of roads, seriously impeded development of northwest Louisiana. It wasn't until after 1833 when Captain Henry Shreve, working under a contract with the United States Government, cleared the Red River Raft (as the blockage was called) that transients and settlers moved in. Clearing the river was slow, tedious work. Piece by piece and bit by bit over an eight-year period the snags were picked up by a crane, placed on a boat and taken away. In addition to his promised remuneration, Captain Shreve was honored by having Shreveport, which he established in 1835, named for him.

Shreveport served as the Confederate capitol of Louisiana after New Orleans fell to the invaders and it was a center for the distribution of men and supplies for the Southern forces largely by way of the

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Ralph W. Junius, Jr., P.E. - A Profile

Ralph W. Junius, Jr., P.E., New Orleans, was installed as the 1989-1990 President of the Consulting Engineers Council of Louisiana, Inc. (CEC/L) at the organization's recent Annual Meeting in Baton Rouge.

Junius is Vice President of Linfield, Hunter and Junius, Inc., Consulting Engineers & Architects. Linfield, Hunter and Junius, Inc. was formed in 1982 with predecessor firms dating back to 1957. Junius practiced engineering at three other Louisiana engineering firms and law in New Orleans before joining the firm in 1975. The firm provides structural engineering services for all types of structures and foundations; civil engineering including services for sewerage systems, water systems, drainage, streets, highways and site developments; services for material handling and waterfront facilities; incidental and general architectural services; and related forensic services

to the legal profession and insurance companies.

Junius graduated from Tulane University in 1970 with a Bachelor of Science in Civil Engineering, University of Illinois in 1972 with a Master of Science in Engineering, and Louisiana State University Law School in 1974 with a Juris Doctor.

Previously, Junius served on the Board of Governors as New Orleans Chapter President, Member-at-Large, Secretary, Treasurer, and President-Elect. He was Chairman of the Legislative Committee for four years and has served on the ACEC Contract Documents Committee. He is a member of the Louisiana Engineering Society, National Society of Professional Engineers, American Society of Civil Engineers, American Society of Testing and Materials, American Society of Military Engineers and Tau Beta Pi Association. He serves as an arbitrator for the American Arbitration Association. He is also a member of the Louisiana Bar Association and

Southern Yacht Club. He and his wife, the former Sandra Perrone, have five children.

"Ralph Junius is probably the youngest president CEC/L has ever had," says Warren Wilder, Executive Director, "but he is mature when it comes to leadership. His track record with this organization will verify that. He has some very ambitious ideas and goals for CEC/L and will not rest until some of those become positive realities. He has been most active as chairman of the CEC/L Legislative Committee for several years. He pushes hard our legislative program, reading a myriad of bills and interpreting them, while planning strategy. We've relied heavily on Ralph and his background in law in this particular arena. He believes in professionalism and ethics in his practice of engineering, and expects no less from his peers. CEC/L should benefit greatly from this man's thoughtful determination as he serves the Council this year as President."

Biographical Sketches of the Board Members

CHARLES G. COYLE, P.E., has been elected President-Elect of CEC/L. He was last year's Vice President. Prior to that he served two terms on the board as Member-at-Large and one year as Secretary. Coyle is President of Coyle Engineering Co., Inc., Bossier City, Louisiana. He was graduated from Louisiana Tech University in 1968 with a Bachelor of Science degree in Civil Engineering and is licensed to practice in Louisiana. He is a member of the Louisiana Engineering Society, National Society of Professional Engineers, and the Society of American Military Engineers. He and his wife, Sheila, have two children, Charlie and Maggie.

Coyle serves on the Board of Directors of the Greater Bossier Economic Development Foundation and the Central Bossier Water System, Inc. He is an elder in the Cottage Grove Memorial Presbyterian Church and serves on the Administrative Council of the Presbytery of the Pines. Coyle's firm specializes in the design of streets, roads, drainage, water distribution systems, and sewage treatment and collection, foundation and structural design and surveying.

RICHARD A. VAN WOOTTEN, P.E., is Senior Vice President - Engineering Operations of Walk, Haydel & Associates, Inc., New Orleans, Louisiana, a multi-discipline consulting engineering firm specializing in industrial plant designs, and the design of deep water terminals, fertilizer facilities, docks, paper and pulp mills. Walk, Haydel & Associates, Inc. maintains branch offices in Baton Rouge, Louisiana and Mobile, Alabama. A registered Louisiana civil engineer, Van Wootten was graduated in 1957 from Rensselaer Polytechnic Institute, Troy, New York, with a Bachelor's degree in Civil Engineering. He holds membership in the Louisiana Engineering Society, National Society of Professional Engineers, and the American Society of Civil Engineers. Van Wootten is married to the former Linda Melvain and they have a son, Peter, and a daughter, Wendy. He has been elected to serve the Council this year as Vice President, having previously served on the board as Treasurer, New Orleans Chapter President, and two years as Member-at-Large.

MORGAN M. WATSON, P.E., was born in St. Joseph, Louisiana in 1943, and attended public schools in Tensas Parish, graduating from Tensas Rosenwald High School as Valedictorian in 1961. He attended Southern University on an academic scholarship, graduating in 1966 with a Bachelor of Science degree in Mechanical Engineering. While in college, he participated in various activities including a full year as co-op student at Marshall Space Flight Center, Huntsville, Alabama, honor student, and was selected for *Who's Who Among Students in American Colleges and Universities*. After passing his EIT in 1966, Watson became a P.E. in 1971, and organized MEL, Inc. in 1972 after realizing that absolutely no opportunities existed for blacks and minorities as engineers in private practice. Presently, MEL, Inc. is among the four largest minority-owned consulting engineering firms in the country, and among the largest in the state of Louisiana. Watson is married to the former Helen Johnson of Newellton, Louisiana, and is the father of their three children. He has served on the CEC/L Board of Governors as Secretary, two consecutive years as Baton Rouge Chapter President and two years as Member-at-Large. This year he has been elected Treasurer of the Council.

JAMES M. POCHÉ, P.E., has been elected Secretary of the Council. He was Member-at-Large last year after having served on the board as Lafayette Chapter President for two consecutive years and another term several years ago. He received his Bachelor of Science degree in Mechanical Engineering from the University of Southwest Louisiana, Lafayette, Louisiana, in 1970. Poché is President of Poché Associates, Ltd., a Lafayette engineering firm which offers services in energy management and mechanical and electrical engineering for private and public residential, commercial, educational, institutional and industrial buildings and complexes. He is also affiliated with ASHRAE, AEE, the Louisiana Engineering Society, National Society of Professional Engineers, and the Louisiana Architects Association. Poché is on the Board of Directors of the Lafayette Chamber of Commerce, was United Givers Fund Section Chair-

man, and is an active member of the American Consulting Engineers Council's Energy Committee. Four years ago, he served as chairman of the Louisiana Engineers Selection Board, a board empowered to award state agency contracts to engineering firms. Poché is married to the former Linda DeRouselle and they have two teenage children.

CHARLES S. HEDGES, P.E., immediate Past President of the Council, will serve the Council as its National Director. He is Chief Engineer of Soil Testing Engineers, Inc., Baton Rouge, Louisiana, a multi-discipline consulting firm specializing in geotechnical engineering, groundwater engineering, and waste engineering. He was a graduate of Georgia Institute of Technology in 1956 with a Bachelor of Civil Engineering and in 1961 with a Master of Science in Civil Engineering. He specializes in geotechnical engineering.

Hedges has served on the Board of Governors as President, President-Elect, Treasurer, Secretary, Member-at-Large, and as President of the New Orleans Chapter. He is a member of the Louisiana Engineering Society, the American Society for Testing and Materials, International Society for Soil Mechanics and Foundation Engineering, American Society of Civil Engineers and American Society for Quality Control. He is also a member of Sigma Xi, honorary research fraternity. He and his wife, Patricia, a practicing attorney, have three children. Hedges is a licensed engineer in Louisiana, Mississippi, Illinois, Georgia and Florida.

C. KEITH CAPDEPON, P.E., Newellton, Louisiana, will serve on the Board of Governors as Member-at-Large. His firm offers consulting services for subdivisions, structural steel design, plant engineering drainage, sewage and water systems. He is a licensed mechanical engineer in Louisiana and Mississippi.

Capdepon graduated from Tulane University with a Bachelor of Science in Mechanical Engineering in 1956. He is a member of the National Society

of Professional Engineers, Louisiana Engineering Society, Mississippi Engineering Society, and the Society of Tulane Engineers. He is a past member of the CEC/L Board, having served as Monroe-West Monroe Chapter President several years ago. He and his wife, the former Barbara Lee Thomas, have four children.

R. L. "RICK" NOWLIN, P.E., has been reelected to serve as Member-at-Large. Prior to his two-year service, he represented the Alexandria Chapter as its President for two years. He is President of Nowlin, Farmer & Associates, Inc., Natchitoches, Louisiana, a multi-discipline consulting engineering firm that offers general engineering services including feasibility studies, design, planning and supervision on all commercial, industrial and municipal projects, including power generation, transmission and distribution, and sanitary landfill facilities. Nowlin was graduated from Louisiana Tech University with a Bachelor of Science degree in Electrical Engineering in 1971 and a Master's degree in Business Administration in 1972. This past year, he co-chaired the CEC/L Legislative Committee and was instrumental in rewriting the Bylaws and Articles of Incorporation for the Council. He is affiliated with the National Society of Professional Engineers, the Louisiana Engineering Society, and IEEE/PES. He is married to the former Brenda Barr and they have two children. Nowlin is a member of the Natchitoches Rotary Club, Past Master and Secretary of Simcoe Walmsley Lodge No. 359, F. & M.A., Flora, Louisiana. He is on the Natchitoches Electrical Board, and is a member of the Natchitoches First Baptist Church. Nowlin's firm serves as City Engineer for Natchitoches.

JOE E. ROACH, P.E., is Vice President of BaLaR Associates, Inc., a Shreveport, Louisiana-based consulting engineering firm offering general civil engineering services including structural and sanitary engineering. He was reelected Member-at-Large after having completed a two-year stint as Shreveport Chapter President. Roach is a graduate of Louisiana State University with a B.S. degree in Civil Engineering. He is a Registered Professional Civil Engineer in Louisiana, Arkansas, and Texas and has been practicing civil engineering since 1960. After graduation, his experience background included the United States Corps of Engineers and the American Oil Company prior to joining J.S. Boyd and Associates, Consulting Engineers in 1962. J.S. Boyd and Associates was later reorganized as BaLaR Associates, Inc. in 1968, and at that time he became a partner in the firm. His specialties include structural design, water and sanitary sewerage facilities design, and paving and drainage designs. He is a registered land surveyor in the State of Louisiana and is a member of the American Society of Civil Engineers, Louisiana Engineering Society, National Society of Professional Engineers, Professional Engineers in Private Practice, American Water Works Association, Water Pollution Control Federation, Construction Specifications Institute, and the Louisiana Conference on Water Supply and Sewerage and Industrial Waste. Roach and his wife, Bea, have three children.

A. DARREL PRIMEAUX, P.E., will serve on the CEC/L Board of Governors this year as Baton Rouge Chapter President. He is Vice President of Ware Lind Furlow Engineers, Inc. and manages the Baton Rouge branch of this Jackson, Mississippi firm which offers services in geotechnical engineering, hydrology, and waste management. Primeaux was graduated from the University of Southwest Louisiana, Lafayette, in 1963 with a Bachelor of Science in Civil Engineering and in 1970, he received a Master of Science degree. He is registered to practice engineering and land surveying in Louisiana and has applied for licenses in Texas. He is affiliated with the American Water Resources Association, the Louisiana Engineering Society, National Water Well Association, and the Air & Waste Management Association. Primeaux is a lifetime member of Tau Beta Pi, Past President of the Sherwood Forest Civic Association, and is a certified ground water professional with the NWWA. He and his wife, Nettie, have two children.

ANTHONY J. MUMPHREY, JR., P.E., has been elected to serve on the board as New Orleans Chapter President. He is a principal and Executive Vice President of Morphy, Makofsky, Mumphy, Masson, Inc., a New Orleans consulting engineering firm specializing in the design of foundations and structures for commercial and industrial buildings, bridges, wharfs, bulkheads, docks, and other related structures. The firm also offers services in consulting in feasibility analysis, electronic data processing, public finance, environmental affairs, and urban and regional economic development.

A Louisiana licensed engineer, Mumphy graduated from Tulane University with a Bachelor of Science in Civil Engineering in 1963 and a Master of Science in the same field in 1964. In 1972, he received a Master's degree in Regional Science from the University of Pennsylvania and in 1973, his Ph.D. Mumphy is a professor of Urban and Regional Planning at the University of New Orleans. He is the former Executive Assistant to the Mayor of New Orleans from 1978-1984. He is chairman of the Public Law Center, a consortium of Tulane and Loyola Universities.

Mumphy is a member of the American Society of Civil Engineers and the American Planning Association. He and his wife, the former Kathleen McCahill, have four children.

DONALD W. CLAYTON, P.E., was elected to serve on the board as Alexandria Chapter President. He is Executive Vice President of Ballard & Associates, Inc., an Alexandria consulting firm offering services in civil and mechanical engineering, surveying, construction management, laboratory analysis, structural engineering and building design.

Licensed to practice civil engineering in Louisiana, Georgia and Oklahoma, Clayton graduated from Georgia Tech in 1973 with a Bachelor of Science degree in Civil Engineering. He is a member of the Louisiana Engineering Society, National Society of Professional Engineers, and American Society of Civil Engineers.

He is married to the former Kathryn Byrd and they have two children.

RONALD L. BOUTTE, P.E., will serve the Council as Shreveport Chapter President. He is Vice President of John J. Guth Associates, Inc., a consulting firm offering services in mechanical and electrical engineering for air conditioning, heating, ventilating, refrigerating, plumbing, fire protection, solar energy, energy conservation, and process piping, electrical and communication systems for commercial, industrial, institutional, municipal and military projects. He graduated from Louisiana Tech with a Bachelor of Science in Electrical Engineering in 1963 and is licensed to practice in Louisiana.

Boutte is a member of the Louisiana Engineering Society, National Society of Professional Engineers, American Society of Heating, Refrigerating and Air Conditioning Engineers, Society of Military Engineers, and the Society of Fire Protection Engineers. He is Past President of the Shreveport Chapter of LES; Past President of the Board of Directors, Volunteers of America, Shreveport Branch; member of the Board of Directors, Goodwill Industries, North Louisiana; a member of Rotary Club of Shreveport; and a past member of the City of Shreveport Electrical Board.

He is married to the former Susan E. Savoy and they have two daughters.

JERRY M. MADDEN, P.E., is an Associate and Senior Civil Engineer and Architect in the firm of S.E. Huey Co., Monroe, Louisiana, an established consulting engineering firm offering route and property surveys, commercial and industrial buildings, bridges, highways, industrial and municipal water and waste treatment, and land development. He has been reelected to a third term as President of the Monroe-West Monroe Chapter of CEC/L. Madden was graduated from Louisiana Tech University in 1966 with a Bachelor of Science degree in Civil Engineering. He is licensed to practice engineering in Louisiana, Texas, Mississippi, Oklahoma, and Arkansas, and is a licensed architect in Louisiana. He is also a registered land surveyor in Louisiana, Texas, and Arkansas. He is a member of the Louisiana Engineering Society, American Society of Civil Engineers, A.C.I., Construction Specifications Institute, and the American Institute of Architects. He holds membership in Tau Beta Pi. Madden is married to the former Gloria Camp and they have one child.

L. JOHNNIE AUCOIN, JR., P.E., has been elected to serve on the CEC/L Board of Governors as Lafayette Chapter President. He is Vice President of Aucoin and Associates, Inc., Eunice, Louisiana, a 38-year-old consulting engineering firm offering services in highway design, water and wastewater design, solid waste management, gas transmission and general land surveying. A Louisiana registered engineer and land surveyor, Aucoin received his Bachelor of Science degree in Civil Engineering from Louisiana State University in 1973. He is a member of the American Society of Civil Engineers and the Louisiana Society of Professional Surveyors. He and his wife, Joan, have two daughters. Aucoin has been involved with local civic clubs and has served as President of both the Eunice Jaycees and Rotary Club. During his spare time, Aucoin enjoys fishing, hunting and jogging. **LE**

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SEPTEMBER 8, 1989
HOTEL BENTLEY, ALEXANDRIA, LA**

PROGRAM

Friday, September 8

9:00 a.m. - 10:00 a.m.
10:00 a.m. - 10:10 a.m.

REGISTRATION
OPENING SESSION Blaise M. Carriere, P.E.

COMMITTEE MEETINGS
Ethics & Professional Conduct
Engineering Education
Scholarship
Long Range Planning
Membership
Young Engineers
Public Relations
Inter-Society Relations
Executive Committee
Liaison With State Board of Registration
Legislative
Constitution & Bylaws

12:00 Noon - 1:15 p.m.
1:30 p.m. - 3:00 p.m.

LUNCH (On your own)
PRACTICE DIVISION MEETINGS
Construction
Education
Government
Industry
Private Practice

3:10 p.m. - 4:30 p.m.

GENERAL SESSION

4:45 p.m. - 5:30 p.m.

Each Committee and Practice Division Chairman is requested to give a three to five minute presentation on his goals and objectives for the 1989-90 administrative year.

1989-90 CHAPTER PRESIDENTS' CONFERENCE

Blaise M. Carriere, P.E.

Saturday, September 9

7:45 a.m. - 8:15 a.m.
8:30 a.m.

BREAKFAST
LES BOARD OF DIRECTION MEETING

**REGISTRATION COUPON - ONE-DAY PLANNING CONFERENCE
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Breakfast (Saturday) Board Members - \$7.32

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General Program

Wednesday, October 18, 1989

11:00 a.m. - 5:00 p.m. Registration
 11:30 a.m. - 5:00 p.m. Golf Tournament, Santa Maria Country Club
 Dinner - On Your Own

Thursday, October 19, 1989

8:00 a.m. - 5:00 p.m. Registration
 8:30 a.m. - 10:00 a.m. Seminar: "The Necessity of Strategic Planning for the 90's and Beyond"
 Speaker: C. William Roe, Ph.D.,
 Department Head
 Department of Management and Marketing,
 Nicholls State University
 10:00 a.m. - 10:30 a.m. Coffee Break
 10:30 a.m. - 12:00 Noon COMMITTEE MEETINGS
 Membership
 Young Engineers
 Engineering Education
 Scholarship
 Long Range Planning
 Lunch - On Your Own
 2:00 p.m. - 3:30 p.m. COMMITTEE MEETINGS
 Executive Committee
 Liaison State Board of Registration
 Public Relations
 Inter-Society Relations
 Political Action Committee
 5:30 p.m. - 6:30 p.m. Cocktails (cash bar)
 6:30 p.m. Catered Fish Fry by Calvin's Kitchen

Friday, October 20, 1989

8:00 a.m. - 12:00 Noon Registration
 8:30 a.m. - 10:00 a.m. Seminar: "Continuing Professional Development: Necessary Requirement for the Registered Professional?"
 Moderator: Bobby E. Price, Ph.D., P.E.
 10:00 a.m. - 10:30 a.m. Coffee Break
 10:30 a.m. - 3:00 p.m. Council of Deans Meeting
 10:30 a.m. - 12:00 Noon COMMITTEE MEETINGS
 Legislative
 Ethics & Professional Conduct
 Constitution and Bylaws
 Luncheon - Speaker: NSPE Representative
 2:00 p.m. - 4:00 p.m. PRACTICE DIVISION MEETINGS
 Construction
 Education
 Government
 Industry
 Private Practice
 4:00 p.m. - 5:00 p.m. Louisiana Engineering Foundation
 6:30 p.m. - 7:30 p.m. Cocktails (cash bar)
 7:30 p.m. Installation Banquet

Saturday, October 21, 1989

8:00 a.m. - 9:30 a.m. Breakfast and General Membership Meeting
 (Ladies and Men Invited)
 9:30 a.m. LES Board of Direction Meeting

Spouses' Program

Wednesday, October 18, 1989

11:00 a.m. - 5:00 p.m. Registration
 11:30 a.m. - 5:00 p.m. Golf Tournament, Santa Maria Country Club
 Dinner - On Your Own

Thursday, October 19, 1989

8:00 a.m. - 5:00 p.m. Registration
 8:00 a.m. - 10:30 a.m. Hospitality Suite Open
 11:00 a.m. Tour and Luncheon at Mount Hope Plantation
 5:30 p.m. - 6:30 p.m. Cocktails (cash bar)
 6:30 p.m. Catered Fish Fry by Calvin's Kitchen

Friday, October 20, 1989

8:00 a.m. - 12:00 Noon Registration
 8:00 a.m. - 10:30 a.m. Hospitality Suite Open
 11:00 a.m. Juban's Restaurant - Presentation by Sue Hebert,
 Fashion Consultant for She and Company
 6:30 p.m. - 7:30 p.m. Cocktails (cash bar)
 7:30 p.m. Installation Banquet

Saturday, October 21, 1989

8:00 a.m. - 12:00 Noon Hospitality Suite Open
 9:00 a.m. Presentation by Helen Melancon -
 "Linens and Laces to Beautify Your Home
 and Wardrobe"

LES Sponsored Seminars

"The Necessity of Strategic Planning for the 90's and Beyond"

Speaker: C. William Roe, Department Head, Department of Management and Marketing, Nicholls State University.

This seminar will deal with the extremely vital issue of strategic planning and its application to any and every organization. While strategic planning has been considered an important management activity for several decades, its significance for the uncertain environments of the 90's and beyond is tremendous. No organization is likely to survive without it. In this seminar, strategic planning is defined and compared to routing planning. The necessity for strategic planning for the accomplishment of organizational goals—for any organization—is presented. The seminar will then focus on the elements involved in a strategic plan and the process any organization should follow in developing a strategic operating plan.

The strategic planning process is a must for managers of every organization.

"Continuing Professional Development: Necessary Requirement for the Registered Professional?"

Moderator: Bobby E. Price, Ph.D., P.E., Chairman of the Continuing Professional Development Committee.

The Continuing Professional Development Seminar will discuss the purpose of CPD, the pros and cons of CPD, what other states are doing, what type of courses or activities count as CPD, how many hours may be required to satisfy a CPD program, what state agency would administer a CPD program, etc. Should CPD courses and activities be required for reregistration of professionals? Will the general public best be served by requiring CPD? The LES Task Force on CPD will lead the discussion in the seminar.

Highlights

The Golf Tournament will be held at Santa Maria Country Club. The fee includes cart, green fee, lunch, and beer and soft drinks for lunch and on the course. Lunch will be served at 11:30 a.m. and tee-off time is 12:00 noon.

The Friday Luncheon speaker will be the NSPE officer assigned to attend

the LES meeting. The LES and NSPE member will become more aware of the National Society of Professional Engineers organization, its programs, and its relationship to the Louisiana Engineering Society, through this unique opportunity.

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Thursday Dinner	\$ 9.00	_____	_____
Friday Seminar	FREE***	_____	_____
Friday Luncheon	\$ 8.50	_____	_____
Friday Installation Banquet	\$13.50	_____	_____
Saturday Breakfast	\$ 8.50	_____	_____
Spouses			
Thursday - Tour and Luncheon Mount Hope Plantation	\$13.00	_____	_____
Friday - Juban's Restaurant - Presentation by Sue Hebert	\$12.50	_____	_____
Saturday Breakfast	\$ 8.50	_____	_____
		TOTAL	_____

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Home Run Scored By 1989 Legislative Program

By John E. Ritter, P.E., Legislative Chairman

The three bills introduced by LES in the 1989 Legislative Session to improve the engineering profession circled the bases and scored. All passed the House and Senate Committees and the Senate unanimously. SB 110 encountered no opposition in the House and SB 112 and HB 735 passed in the same chamber by votes of 96 to 4 and 92 to 2, respectively. A minor amendment in SB 112 was successfully made by Representative Terry Gee to delete as a "claimant" any person to whom money is due pursuant to a contract with the subcontractor.

The LES introduced bills are summarized below:

1. **HB 735** - Made numerous changes to the Registration Law. Authored by Representative Terry Gee. Signed by the Governor on June 26, 1989 and became Act 149.

Provides for: (a) continuity of experience on the composition of the Board by having no more than two terms expiring in the same year and all terms ending on August 31 of the expiration year regardless of the date when the

board members were appointed; (b) the Board to "establish, adopt, promulgate, and publish rules concerning the procurement of professional engineering and land surveying services." One such rule could prohibit competitive bidding for engineering services; (c) the Board to take disciplinary action against any registered engineer or land surveyor who violates the Louisiana Campaign Finance Disclosure Act, or any other Campaign Financial Law, but only after conviction by a Court of Law; and (d) Board authority to hold public meetings and collect fines against any person or firm that attempts to practice engineering or land surveying without a license to practice in the State.

2. **SB 110** - Louisiana Private Works Act.

Authored by Senator Larry Bankston. Signed by the Governor on June 15, 1989 and became Act 41.

Adds registered or certified surveyors or engineers, or licensed architects, or

their professional consultants, employed by the contractor or a subcontractor to the list of persons having a claim against an owner and contractor under the Private Works Act.

3. **SB 112** - Provides for claims filed under the Public Works Law.

Authored by Senator Larry Bankston. Signed by the Governor on June 27, 1989 and became Act 305.

The law extends the definition of "claimants" to include registered or certified surveyors or engineers, or licensed architects or their professional consultants employed by the owner or contractor.

Fortunately, the three LES bills were filed in both houses. The State Legislative Council in preparing the acts misinterpreted one of the bills introduced in the Senate and another in the House. The legislation would have been lost for this year had like bills not been filed in the alternate chambers.

A total of 2,546 bills were introduced in the House of Representatives and Senate by the deadline. A synopsis of each of

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TOTAL JOB CAPABILITY

the bills was individually read by Lamon Moody, P.E., P.L.S., John E. Ritter, P.E., James Webb, P.E., P.L.S., Jack Laws, P.E., P.L.S., Kenneth Perret, P.E., Coan Bueche, P.E., P.L.S., and Leta Bueto. Some 300 were selected for further review of the entire text.

Finally, 35 bills listed below, were eventually chosen to actively support, oppose, or simply monitor:

HB 80 - Dastugue - Strongly Support - Transportation Trust Fund - signed by the Governor - will be on the October 7 ballot as a stand-alone item. The bill will dedicate 12 cents of the present 16 cents/gallon tax to the fund for highway and transportation maintenance beginning January 1, 1990. The amount would rise to 14 cents by July 1990 and to 16 cents in 1991. Only 10 cents of the tax is now dedicated to highways. The bill would also activate a special \$1.4 billion transportation program approved in March and impose an additional 4 cents/gallon tax to fund it. The present 3% sales tax would be eliminated. The special fund will be utilized for four laning highways, building and improving some bridges, and upgrading port and airport facilities in New Orleans.

HB 176 - Downer - Support - Requires development and use of standards for a state-wide land information mapping and records system. Passed both houses - waiting action of Governor.

HB 258 - Bruneau - Support - Provides for enforcement of Campaign Finance Act by the Attorney General. Never reported out of the House and Governmental Affairs Committee.

HB 470 - Gee - Monitor - Provides relative to filing of bonds or other security with regard to purchasing and the Public Bid Law. Passed both houses - waiting action of Governor.

HB 480 - Gee - Support - Present law prohibits hold harmless clauses between contractors and public bodies in public contracts. Proposed law extends this prohibition to also prohibit hold harmless clauses from the contractor to any architect, landscape architect, engineer, or land surveyor engaged by the public body. Never reported out of House Civil Law and Procedure Committee.

HB 505 - Landrieu - Support - Prohibits giving, solicitation, and acceptance of campaign contributions to or for state legislators during and 30 days prior to a regular legislative session. Never reported out of House and Governmental Affairs Committee.

HB 532 - Ansardi - Monitor - Requires certain information concerning parties to be included in act affecting immovable

property. Never reported out of House Civil Law and Procedure Committee.

HB 645 - Thompson - Strongly Oppose - Requires the use of landscape architect and contractor for beginning in planning. Never reported out of House Appropriations Committee.

HB 737 - Gee - Support - Deletes the requirement of prevailing wages in construction contracts of the Sewerage and Water Board of New Orleans. Never reported out of House Municipal Parochial and Cultural Affairs Committee.

HB 741 Gee - Oppose - Authorizes the pledge by contractors of certificates of deposit in lieu of payment withheld. Never reported out of House Appropriations Committee.

HB 752 - Gee - Oppose - Deletes the bid advertisement period on opening of bids on contracts for public works and for materials and supplies. Never reported out of House Transportation, Highways and Public Works Committee.

HB 762 - Crane - Support - Limits the liability of a "construction design professional." Never reported out of House Civil Law and Procedure Committee.

HB 860 - Bella - Oppose - Fees for plan review with regard to fire protection and the fire marshal. Failed in House.

HB 890 - Triche - Monitor - Revises the criminal trespass on immovable property laws. Never reported out of House Administration of Criminal Justice Committee.

HB 949 - Thompson - Support - Provides for service of subpoenas pursuant to the Administrative Procedure Act. Passed both houses - signed by Governor - Becomes Act 156.

HB 951 - Gaudin - Support - Provides that a contract cannot be dissolved if it has been in effect for 10 years, if the obligor's performance has not substan-

tially lessened or deteriorated, and if the obligor has compensated the obligee for damages occasioned as a result of the breach. Proposed law is considered remedial and would apply retroactively. Never reported out of House Civil Law and Procedure Committee.

HB 969 - Gaudin - Monitor - Requires lessee or predial estate to give notice of encroachment. Never reported out of House Civil Law and Procedure Committee.

HB 1080 - Donelson - Strongly Support - Requires notification of appropriate licensing authority if an offender of uniform controlled dangerous substances law is licensed to practice a trade, occupation, or profession. Passed both houses - signed by Governor - becomes Act 81.

HB 1330 - Waddell - Oppose - Increases the number of acceptable alternate bids. Never reported out of House Transportation, Highways and Public Works Committee.

HB 1353 - Ater - Monitor - Revises the criminal trespass on immovable property law. Never reported out of House Administration of Criminal Justice Committee.

HB 1651 - LeBlanc - Oppose - Provides that all roads and streets may be used for all public purposes including the placement of all utilities and service facilities. Never reported out of House Transportation, Highways and Public Works Committee.

SB 69 - Bares - Strongly Support - Eliminates the Board of Regents, the three university systems and their managing boards, and creates a single system governed by a Board of Governors. Never reported out of Senate Education Committee, but the full Senate passed a res-

Continued on page 19

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New Educational Requirements for Land Surveyor Applicants

Act 385 of 1987 amended La. Rev. Sta. 37:693 (B) (3), (4), and (E). This law change is significant in changing the educational requirements needed for one to qualify for Land Surveyor-In-Training certification and Professional Land Surveyor registration consideration in the future.

Land Surveyors-In-Training applicants who apply on January 1, 1991 and thereafter, and **Professional Land Surveyor** applicants who apply for registration on January 1, 1995 and thereafter, "shall be a graduate holding a baccalaureate degree from a curriculum of four years or more who has completed at least thirty semester credit hours, or the equivalent approved by the Board, in land surveyor, mapping, and real property courses approved by the Board, who is of all good character and reputation, . . .". Experience will no longer be a factor in considering a Land Surveyor-In-Training for admittance to take the examination. The only factors will be education, a baccalaureate degree, and thirty semester credit hours of courses as stated above and of a good character and reputation.

The Professional Land Surveyor applicant on January 1, 1995 and thereafter will also be required to have a baccalaureate degree and thirty semester hours of courses approved by the Board as stated above and additionally will need to present proof of "at least four years or more combined office and field experience in land surveying, including two years or more experience in responsible charge of land surveying projects under the supervision of a professional land surveyor registered or licensed by the appropriate authority. . .".

It behooves any one who wishes to be given consideration for land surveying registration or land surveyor-in-training certification who does not meet these education requirements, to apply under the old law before January 1, 1991 for LSIT consideration and before January 1, 1995 for Professional Land Surveyor registration consideration.

Current Application Requirements

Land Surveyor-In-Training applicants through December 31, 1990:

EXAMINATION SCHEDULE and APPLICATION DEADLINE DATES

EXAMINATION	SPRING		FALL	
	Application Deadline Date	Examination Date	Application Deadline Date	Examination Date
Fundamentals of Engineering Examination (8 hrs.)	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Principles and Practice Engineering (8 hrs.) Civil (Including Structural & Sanitary), Mechanical, Chemical, & Electrical	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Agricultural, Industrial, Metallurgical, Mining & Petroleum	NOT AVAILABLE		Aug. 1, 1989	Oct. 28, 1989
Fundamentals of Land Surveying Examination (8 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Principles and Practices of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Laws and Procedures of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	NOT AVAILABLE	

Apply at least six to eight months prior to an examination. Board approval must be given for anyone to be scheduled for an examination.

The applicant and the Board depend upon information provided by third parties in the processing of an application, therefore no assurance can be given that one will be scheduled for a specific examination.

Application Deadline date means that an application **must** be postmarked prior to or on the date specified so as to be given **consideration** for the examination. The Board may schedule an applicant for an examination later than that requested by the applicant. The Board cannot guarantee that the applicant will be scheduled for the examination initially requested.

High School Graduate: four years of land surveying experience.

Two Years of College: at least six semester hours of land surveying courses and two years of land surveying experience acceptable to the Board.

Bachelor Degree Graduate: at least six semester hours of land surveying courses acceptable to the Board, no experience required.

Professional Land Surveyor applicants through December 31, 1994:

High School Graduate: eight years of land surveying experience acceptable to the Board.

Two Years of College: at least six semester hours of land surveying courses and six years of land surveying experience acceptable to the Board.

Bachelor Degree Graduate: at least six

semester hours of land surveying courses and four years of land surveying experience acceptable to the Board.

Professional Engineers: six semester hours of land surveying courses and two years of land surveying experience acceptable to the Board.

A formal application must be submitted before determination can be made whether or not an individual meets the requirements. The Board staff nor the Board can evaluate ones experience unless a formal application is submitted. Louisiana Revised Statute 37:682 (9) defines the practice of land surveying as "shall include the measuring of areas, land surfaces, streams, bodies of water, and swamps, for correct determination and description, for the establishment, reestablishment, ascertainment, or description of land boundaries, corners, di-



**Paul L. Landry, P.E.,
Executive Secretary
Louisiana State Board of Registration for
Professional Engineers & Land Surveyors.**



visions, distances, and directions, the plotting and monumenting of lands and subdivisions thereof, and mapping and topographical work." The land surveying experience that an applicant is expected to present is land surveying experience as defined by this statute. This experience can only be obtained under the supervision of a professional land surveyor.

The Board urges all who qualify under the current statutes to apply for Land Surveyor-In-Training certification or Professional Land Surveyor registration before January 1, 1991 or January 1, 1995, the effective dates for the new law.

Act 149 of 1989

Governor Roemer on June 22, 1989 signed into law the following changes to the registration law for professional engineers and land surveyors:

- A. In the future a Board Member's term will expire on August 31st after serving for no more than six (6) years with no more than two terms expiring per year.
- B. The Board has now been given the authority to "establish, adopt, promulgate, and publish rules concerning the procurement of professional engineering and land surveying services."
- C. The Board may now take disciplinary actions against a registrant of the Board who has been convicted of any civil or criminal violation of charges "under the Louisiana Campaign Finance Disclosure Act or any other campaign finance and/or practice law of the State of Louisiana, in the United States, or any state."
- D. The Board may now hold hearings and fine any individual up to one thousand dollars (\$1,000.00) and firms up to five thousand dollars (\$5,000.00) who have violated the registration laws. This means the Board may now intervene directly with any citizen, not only registrants of the Board, to insure that the public is protected as it relates to engineering and land surveying in the State of Louisiana.

Act 149 of 1989 has given significantly more powers to the Board so as to insure that the public citizens of the State of Louisiana are protected. Please write to the Board office for your copy of a revised copy of the registration law for professional engineers and land surveyors which should be available for distribution in the near future. **LE**

BOARD MEETING NOTICE

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors will hold its regular meetings at 1055 St. Charles Avenue - Suite 415, New Orleans, La. 70130 on the following dates:

1989

Sept. 26
Nov. 14

1990

Jan. 23 July 24
Mar. 27 Sept. 25
June 5 Nov. 13

Enforcement Corner by Registration Board Investigator Benjamin S. Harrison

It is with some frequency that the professional is provided with all types of information about current and forthcoming changes in professional registration requirements, new application procedures, professional conduct, professional responsibility, etc. How often though does the professional have the opportunity to find out what is happening in regard to enforcement of the rules, statutes, and policies associated with the regulation of professionals? Well in the future, the Board shall attempt to provide some articles that are hopefully of interest, regarding what is happening in the area of enforcement not only in Louisiana, but throughout these United States. In these articles, we will try to address in an informative way some of the more common areas of complaints/problems received by the Board, ways in which professionals may help in the Board's enforcement efforts, and also provide general information regarding enforcement procedures and direction.

The views expressed herein are those of the writer and not necessarily those of the Board. They are a compilation of information and outlooks by others who are knowledgeable and involved in the field of professional regulation and enforcement, as well as those observations and beliefs of the writer. Although, none of us have a crystal ball through which we may forecast the future, certain trends and analysis tend to foretell of future changes.

In this first article the focus is in a general sense on the ways that regulatory activities may be different in the 1990's and beyond. It is likely that we will see a change in the emphasis of enforcement or regulation from the government to the private/public sector.

This may occur as companies, professional associations, and private citizens arrive at the point of realizing that as they face decreasing government resources, they must play a more active role in being not only better informed, but in demanding adherence to governing rules and laws by regulated professionals.

Companies that engage professionals may become more involved in the regulation of those who work for them through higher standards as to services and integrity. These may be enacted through peer reviews, work audits and other internal guidelines. Professional associations will undoubtedly become more involved in this process, as they have a vested interest in their reputation and how the public views their members. These may be expressed by the associations active involvement in establishing minimum standards of acceptable practice. The court system may also play a more significant role in enforcement. Reportedly malpractice suits are already on a steady rise, which in turn drives insurance costs upward. Eventually the public/private sector may feel a need to rely more on the judicial system in order to receive prompt action, due to the public's perception that the government does not have the resources nor the will to address all of these matters in a timely matter.

Various forms of disciplinary actions taken by licensing boards may also change. The use of a suspension or revocation of a license after a lengthy investigation may no longer be acceptable to the public. This may necessitate a need for newer and more streamlined "informal" procedures whereby a complainant can receive quicker action and resolution without the cumbersome, expensive and time consuming full investigation and hearing process, while yet providing adequate due process to a defendant. The ability of a regulatory agency to also directly address the unlicensed practitioner without having to depend upon referral action to an elected District Attorney is likely to become more prevalent.

All in all, we are likely to see significant changes in the enforcement area in the 1990's and beyond, as the public becomes more involved and more determined to eliminate those professionals who are either incompetent, immoral, or unethical. Such involvement is sure to cause legislators to more carefully evaluate present and future statutes to insure that the public is being adequately served.

BAYOUS AND RIVERS OF LOUISIANA

Continued from page 7

Red River. There was considerable commerce on the river after the Civil War, although this was interrupted by the formation of another raft or log blockage from 1922 until 1923. In addition to the navigational benefits of removing this mammoth pile of debris, the river levels were thus lowered, drainage improved and land along the river was reclaimed.

The Red River is now well maintained with the construction of dams and locks and by regular dredging. Waldemar S. Nelson and Company made a major contribution to these improvements by assisting in the design and drafting of portions of Lock and Dam No. 1 in 1977, and the major work on the design of the Old River Lock in 1957-59. The Red will soon carry a steady stream of freight to towns and cities on or near its route including Shreveport and Bossier City, Coushatta, Campti, Natchitoches, Alexandria and Pineville.

The next north Louisiana river two-thirds of the way across the state is the Ouachita. Fed by its first major tributary, the Sabine River, it comes down from southern Arkansas then, greatly augmented by other streams, (Bayou de Loutre, Bayou d'Arbonne, Bayou Bartholomew and lesser creeks), it glides between the cities of Monroe and West Monroe. It continues southerly past Fondale, Riverton, Enterprise, and Harrisonberg before joining the Black and pouring its waters into the Red River to help form several small bodies of water known as Grand Lake, Lower Sunk Lake, Smith Bay, and Grand Bayou on either side of the Red just before its demise at the head of the Atchafalaya. Many of the early non-Latin settlers of Louisiana, those of English, Scotch and Irish descent, settled in the Ouachita Valley. While steamboating on the Ouachita has been replaced by railroads and barges, there is a conventional-type pleasure or

excursion boat operating out of Monroe which maintains the tradition.

Between the Ouachita and the Mississippi in north Louisiana there are several smaller streams. These include Bayou Bonne Idee (we wonder whose "good idea" it was to give it this name), Bayou Macon (pronounced with a soft "c"), famous as the site of the immense prehistoric Poverty Point Indian settlement, and the Tensas River (named for an Indian tribe) which winds down southward like a small child following the Mississippi, the Father of Waters.

All of these rivers, as well as many of the unnamed ones, in addition to draining and watering large areas, have served and continue to serve, as important links to transportation between many municipalities and areas in Louisiana. LE

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Continued from page 14

olution to approve if the judge's decision in the current Higher Education Desegregation Suit is to create a single board as recommended by the consultant appointed by the Court. A similar act, SB 54, authored by Senator Johnson, provided for the legislature to have a say in making appointments. A total of 17 members voted for the bill and 15 against, falling far short of the 26 favorable votes required for passage.

SB 210 - McLeod - Monitor - Prohibits specific allegations of general damages in certain suits. Passed Senate - Never reported out of House Civil Law and Procedure Committee.

SB 313 - Nelson - Oppose - Increases the number of alternates allowed in a public bid proposal to ten. Withdrawn from the files of the Senate.

SB 339 - Hainkel - Monitor - Provides for the computation of damages and elements of proof in certain tort claims. Never reported out of Senate Judiciary A Committee.

SB 340 - Hainkel - Monitor - Provides for additional elements of proof in certain tort claims. Never reported out of Senate Judiciary A Committee.

SB 344 - Kelly - Support - Provides for Senate confirmation of appointments made by the Governor. Tabled on the Senate floor.

SB 364 - Kelly - Oppose - Provides that contracts for professional, personal, consulting, and social services entered into by DOTD be subject to review by the Office of Contractual Review. Never reported out of Senate Finance Committee.

SB 371 - Kelly - Support - Provides for the extension of time for the award of construction contracts by DOTD and for the rejection of bids of certain contractors by the Secretary. Never reported out of Senate Transportation, Highways, and Public Works Committee.

SB 387 - Kelly, et al - Strongly Oppose - Proposed the practice of engineering without certification by officers and employees of DEQ, provided the person is actually and exclusively an employee of the Department. Never reported out of the Senate Natural Resources Committee.

SB 686 - Hainkel - Strongly Support - Prescribes policy for procurement of consultants by DOTD. Passed both houses on July 3, 1989. The Governor indicated he will sign. Comment: The bill is certainly not perfect, but is an excellent step in the

right direction. Several amendments proposed by various LES members were not brought up because of the potential negative effect on the bill's passage.

SB 724 - Bankston - Support - Provides for the licensing of professional marine surveyors. Never reported out of Senate Commerce Committee. Internal disagreement was a handicap.

SB 746 - Chabert - Monitor - Provides relative to exemptions and payment of damages as a result of encroachments on state owned lands. Passed Senate - House floor regular calendar.

SB 832 - Crain - Oppose - Authorizes the imposition of fees to ensure safe drinking water. Never reported out of Senate Health and Welfare Committee.

SB 848 - McLeod - Monitor - Provides relative to unlicensed persons practicing architecture. Withdrawn from the files of the Senate.

SB 862 - Lauricella - Oppose - Provides for procurement code exemption for certain contractual services. Never reported out of Senate Finance Committee.

It will be noted that not a single bill opposed by LES passed. This is not as significant as it seems at first glance. The legislature operated under an atmosphere of uncertainty with the time factor being ever present because of the budget problem. Many of the objectionable acts that failed will come up again next year with more time for consideration.

Thanks are due to the Legislative Committee members and many other persons who have contributed a lot of their time to ensure the success of LES's 1989 legislative program. One, however, must be singled out, Lamon L. Moody, P.E., P.L.S. Without his knowledge, experience, personal contacts with the congressmen, and hard work, we may have failed to reach the favorable position we now have. Of course, as always, our Executive Director, Mrs. Leta Bueto, performed her usually excellent job of coordinating all of the associated tasks required to maintain the legislative program on track with the wheels moving forward at a fast clip.

Unfortunately, in addition to the hands on assistance of LES members, it requires funds to realize a successful ongoing legislative program. The employment of a lobbyist and a lawyer is a must and at times we need to participate in legal suits and other activities to preserve

the integrity of the engineering profession. What all this says, is not to forget your voluntary legislative contribution when you mail in your 1990 dues.

It would be appreciated if non-members receiving this magazine would join the Louisiana Engineering Society. This would give us a much stronger voice in the legislative process.

It has been self-rewarding for me to serve as your Legislative Chairman this year. Frankly, I know, because of my inexperience, I received more than I gave. LE

Calendar of Events

We invite all technical and professional organizations to submit their meeting dates for publication in the *Louisiana Engineer* to: Editor, P.O. Box 2683, Baton Rouge, LA 70821

September 8, 1989

LES Planning Conference
Hotel Bentley
Alexandria, LA

September 9, 1989

LES Board of Direction Meeting
Alexandria, LA

September 26, 1989

State Board of Registration Meeting
New Orleans, LA

September 28-30, 1989

ACEC Fall Membership Conference
Washington, D.C.

October 18-21, 1989

LES Annual Meeting
Ramada Inn
Baton Rouge, LA

November 14, 1989

State Board of Registration Meeting
New Orleans, LA

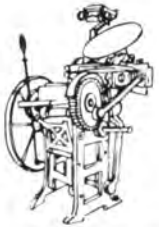
January 14-20, 1990

NSPE Winter Meeting
Hilton Beach & Tennis Resort
San Diego, CA

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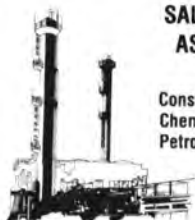


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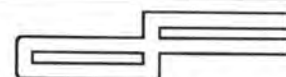
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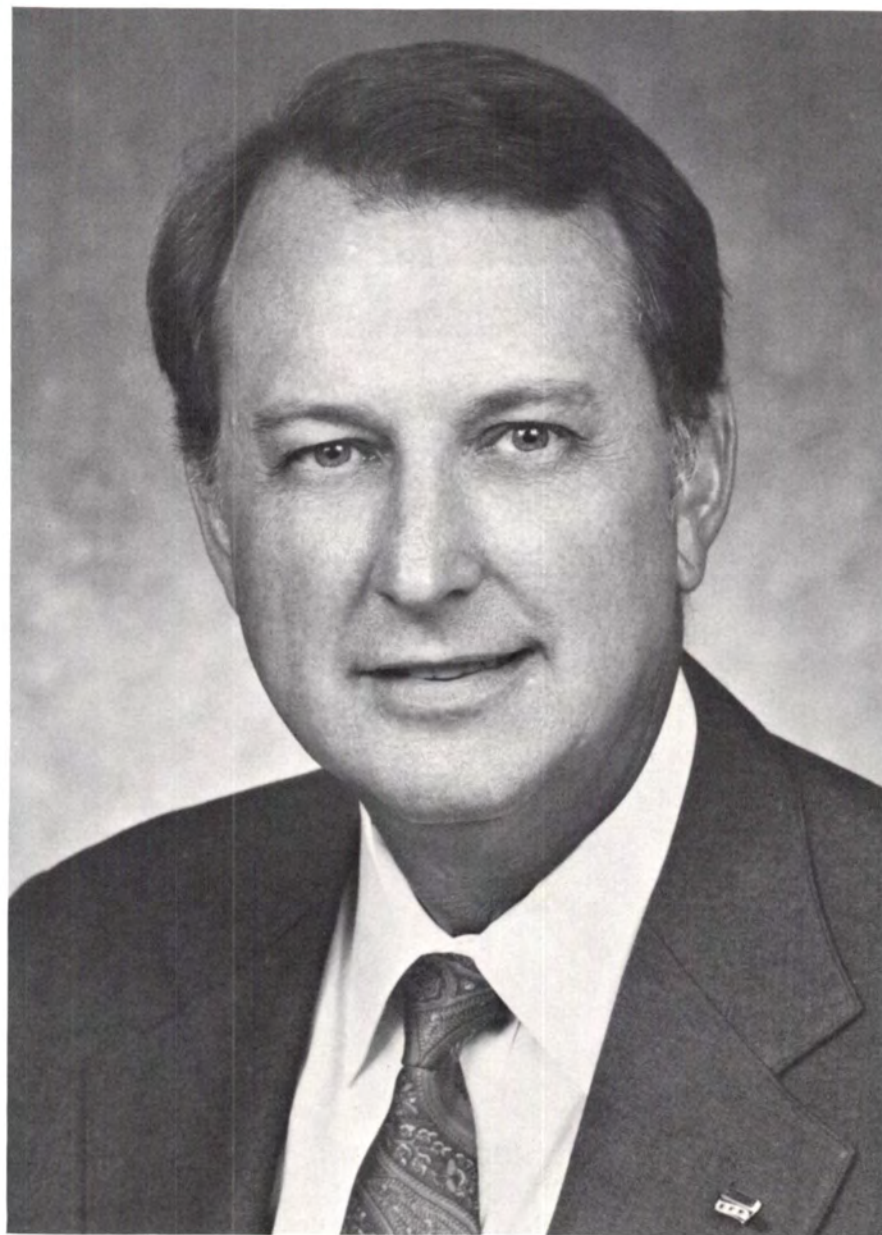
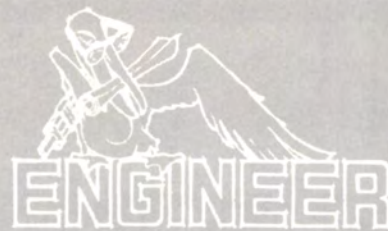
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Blaise M. Carriere, P.E., the new President of the Louisiana Engineering Society.



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The LOUISIANA ENGINEER is the official publication of the Louisiana Engineering Society. The LOUISIANA ENGINEER is 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 \$2.00 per year for engineers registered in Louisiana and non-registered members of the Louisiana Engineering Society. Two dollars of each LES member's annual dues is set aside for six issues of the LOUISIANA ENGINEER. 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. ISSN: 0024-6794

Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318; 1213 Nicholson Drive, Baton Rouge, La.



Blaise M. Carriere, P.E.
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Where does one begin? THANK YOU! It is indeed an honor and privilege to have the opportunity to serve as the President of the Louisiana Engineering Society. Founded in 1898, LES is nearing a century of providing the engineering community the forum to present our ideas and recommendations for the betterment of the people of Louisiana.

To Dr. Jim Reeves and all of the state and local chapter officers, thank you for guiding and steering our society through what continues to be challenging times. Under Jim's leadership and with much hard work, I find our membership to be solid and once again there is an opportunity for growth. Our activities remain strong in all of the practice divisions and committees.

During the 1989-90 year, it is my desire to see that LES continues to lead in strengthening our standards of practice to warrant and insure the confidence of the public in our undertakings. We look forward to working with the State Board of Registration for Professional Engineers and Land Surveyors in promulgating rules covering the procurement of professional engineering and land surveying services.

The procurement of professional services is not limited solely to the public sector, nor to just engineering, land surveying and architectural services. It is a matter of concern for both public and private agencies and for all professionals. The primary consideration in obtaining professional services should be qualifications and experience of the professional and the firm.

Historically, engineers have been hired by agencies and firms based upon their qualifications and experience. The selection of a consultant was generally based upon these same criteria. Not too long ago, however, the word "contractor" began to be used, first by federal agencies and then by many other agencies, to cover all individuals and firms providing various services to an agency. In my judgment, there is a very clear distinction between the provision of professional services involving creative thinking, unique training, knowledge and the application of these principles to a problem and the straightforward "contracting" required to assemble, build or construct a specific

item or perform a specific mechanical or clerical chore. The latter does lend itself to the bidding process whereas the former does not.

Recognizing the need to select and obtain professional engineering and land surveying services on the basis of qualifications, NSPE was in the forefront of seeking the adoption of the "Brooks Bill" which now governs federal procurement of engineering and land surveying services. Recently, we have seen an interest in Louisiana toward adoption of the "Qualifications Based Selection" (QBS) process. A bill passed in the Louisiana legislature this past session established the Department of Transportation and Development's qualification-based procedure as a state law. Unfortunately, the bill was vetoed by the Governor. In East Baton Rouge Parish, the Mayor/President and Metropolitan Council adopted, by ordinance, a QBS program. During the coming year, we hope to have LES develop a model procurement procedure which could be used throughout the state.

Another area of importance to the engineering and land surveying profession is the future of higher education and the four year colleges of engineering in Louisiana. As we all know, the future of all higher education is now in the hands of the federal courts and will probably result in dramatic court-ordered changes and legislative action to properly implement these orders. In any event, LES must be involved in this most important matter. As our society continues to become more and more technically complex, the need for qualified, well-educated professionals will grow. With currently six (6) full, four-year public colleges of engineering and one (1) private institution, it would appear that the capacity exists to produce the needed number of professionals. Unfortunately, however, enrollments are not growing with respect to the projected number of needed professionals. Many issues concerning faculty compensation, professional development and the upgrading of engineering facilities must be addressed. All of these concerns are related to the resources of the state and our ability to set priorities and work toward them on a long-term basis.

It is, therefore, with these goals, accompanied by a sense of excitement and enthusiasm, that we begin another LES year. **LE**

HURRICANE!!

by James S. Janssen, P.E.

A hurricane is a large tropical cyclone with maximum winds of at least seventy-five miles per hour. The word is also used as an adjective as in "winds of hurricane force," which may occur anywhere as in a blizzard on the plains. The word comes from the Spanish *huracan* and from a similar Taino Indian word meaning "evil spirit," which seems appropriate. Another derivation sometimes given is a Carib Indian word for "big wind," but the Tainos and Caribs never did agree with one another since the Caribs were always eating the Tainos. Hurricanes originate in the tropics and are characterized by counterclockwise (in the northern hemisphere), circular, slightly centripetal winds rotating about a calm area of low atmospheric pressure called the "eye," usually about ten to twenty miles in diameter. The hurricanes themselves may be 100 miles or more in diameter but not necessarily truly circular. They are usually accompanied by heavy rain, possible tornadoes, lightning, and thunder, although the noise of the thunder may be obscured by other accompanying noises of wind whistling, trees shaking, buildings coming apart, and the moaning of electric wires and insurance company executives.

The hurricanes that visit us along the coast of the Gulf of Mexico usually originate in the southern section of the north Atlantic Ocean in the vicinity of the Cape Verde Islands, in the western Gulf of Mexico, or in the Caribbean Sea. Other locales in the northern hemisphere that are prone to hurricanes are the western coast of Mexico; northern Pacific Ocean areas such as the China Sea, Japan, and the Philippines; in the Bay of Bengal; and in the Arabian Sea. In the Orient, hurricanes are known as "typhoons" or "baguios." "Willie-willies," as they are called, occur east of Australia in the South Pacific and the islands of the Coral Sea. The other southern hemisphere location in which hurricanes take place is the South Indian Ocean between Madagascar and northwest Australia, where they are called by their generic name of "cyclones."

Tornadoes, or "twisters," which are localized phenomena of centripetal winds of extremely high velocity—perhaps 500 mph—should not be confused with hurricanes. However, torna-

does frequently occur within hurricanes as they also do in non-tropical cyclones. The familiar "dust devils" of the arid southwest are small, benign tornadoes of low velocity.

Properly speaking, a cyclone is a large area of circling winds moving about an area of relatively low atmospheric pressure. These winds move counterclockwise around the center north of the equator and clockwise in the southern hemisphere. A tropical cyclone may or may not be a hurricane, depending on its intensity. If below hurricane force but still a storm of above thirty-nine miles per hour, it is properly termed a "tropical storm." Below that it is called a tropical depression. The information released to the public by U.S. meteorologists describing wind velocities, distances, etc., is in statute or land miles (5,280 feet) while data given directly to maritime interests is in nautical miles (6,076 feet) or knots, which are nautical miles per hour. An anticyclone is a circulation of wind around a center of higher pressure, clockwise above the equator and counterclockwise below. The weather variations in North America are, in general, produced by the movement of these phenomena across the country from west to east or from northwest to southeast.

The origin of the word *cyclone* has been attributed to Captain H. Piddington who is said to have coined the name from a Greek word meaning the coil of a snake. However, another possible derivation, also Greek, is from *kyklas*, meaning circle, and *clonos*, meaning violent motion. A gale is a storm of less intensity than a hurricane. Gales embody winds of thirty-nine to fifty-four miles per hour, whole gales are between fifty-five and seventy-five and hurricanes are above that. The word *gale* is also used as an adjective, as in describing a hurricane when "gale force winds extend out 100 miles northward."

It should be noted that the words *usually*, *generally*, *ordinarily*, etc., occur frequently in this article. This is because Mother Nature tends to be capricious and does not always follow her own rules. About the only thing we can say with confidence about hurricanes is that they never form at, nor do they cross, the equator; however, they may change course, stop, loop, weaken, reform, and gain strength.

There are two theories concerning the formation of hurricanes. One is that they originate as a super thunderstorm with a tremendous updraft of superheated tropical air, subsequently being continuously fed by energy from warm tropical seas, and are given their circular motion by the prevailing winds controlled by the earth's rotation. The other theory is that they are formed by the convergence of the seasonally energy-rich prevailing winds which converge, combine their forces, and then draw their strength from the warm seas. Regardless of their parentage, they are all essentially of the same structure but differ widely in size, intensity, rate and direction of travel, life span, tornado occurrences, precipitation, and other characteristics.

To be classified as hurricanes, they must have rotary wind velocities of over seventy-five mph, but they may reach 250 mph in gusts in extreme cases. The wind velocity is a function of the pressure gradient which may run from 30.00 inches of mercury beyond the disturbance to a low of perhaps 27.00 at the center, although a record of 26.185 has been attained. It is customary to refer to hurricanes as being composed of four quadrants—right front, right rear, left front, left rear—which are based on the direction of travel and are used to describe conditions of wind velocity, wave action, rainfall, or whatever within the hurricane. The right side is notoriously the worst because the rate of travel adds to the rotary wind velocity while on the left side it subtracts. They are far from symmetrical in any of their aspects. The right side is also the wettest or rainy side. The center is usually calm and tends to be clear, perhaps even with sunshine, and will be warm and humid from the heat released in the "walls" by the condensing vapors. Hurricanes characteristically produce heavy rains which frequently cause flooding, landslides, and mud flows since the rainfall may extend far into the interior, even as far as the Great Lakes region of the United States. Precipitation will frequently exceed twenty inches with as much as forty-six inches in twenty-four hours having been reported. In many cases it will surpass an area's normal annual rainfall. A high mountain range will frequently break up, or at least greatly weaken, a hurricane as it moves

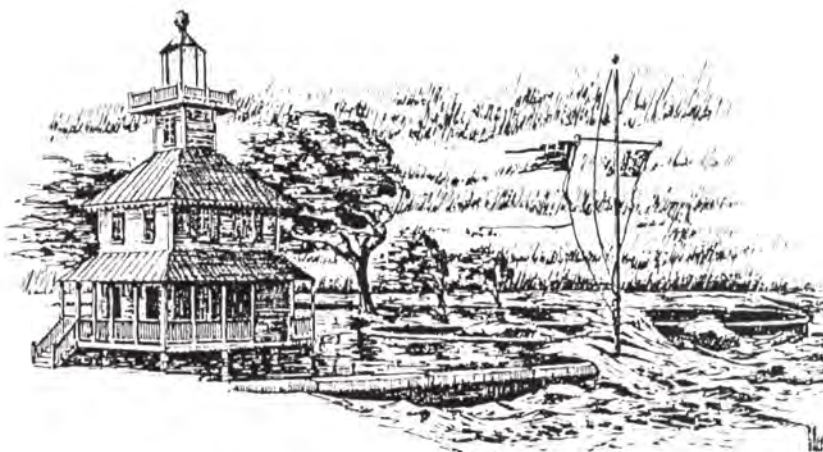
inland even though the storm's maximum height may be three, four, or five miles, towering over the mountains. Of course, all hurricanes can accelerate but they also weaken and ultimately die as they traverse land, encounter friction, and leave their source of energy. However, some of them don't weaken fast enough to ease the minds of our neighbors in the interior.

The electric utility companies in our area are well prepared for hurricanes. Not only do they have well-thought-out plans and special equipment for making emergency repairs to their own facilities, but they have developed a cooperative procedure to assist one another. Recent examples of this mutual aid agreement occurred when New Orleans Public Service Inc. and Louisiana Power and Light sent crews to Houston after Hurricane Bob and to Mobile after Hurricane Frederic to help restore electric service to customers with as little delay as possible. It is only when we are without power for days at a time that we realize how dependent we are upon electricity.

The incidence of hurricanes varies widely, ranging from as few as two to as many as twenty per season. There seems to be no predictable reason for this; nor are there any detectable longtime trends. Efforts to tie-in hurricane incidence or intensity with sunspots or other world universal phenomena have been futile. The season seems to synchronize with the temperature of tropical waters, lagging a bit behind atmospheric temperatures. Thus, we have more tropical disturbances in September than in July or August. The incidence by months for one period of thirty-seven years was as follows:

Month	Percent
May	0
June	5
July	8
August	28
September	37
October	19
November	3
December	0

A new facet that has been added to the nomenclature of hurricanes is a numbering system scale based on the damage potential of any specific storm. The hurricane is evaluated by characteristics including existing and predicted wind velocities, atmospheric pressures in and surrounding the center, and rain-producing capabilities. The scale runs from one to five with one being a mild well-behaved almost innocuous little storm while five represents the worst possible or most dangerous hurricane.



Camille was a five while Betsy and Frederic were three's, bordering on four.

There have been many contributions down through the years to our knowledge of worldwide meteorology as it affects tropical storms. Some pioneers in this field were William Dampier (1697), George Hadley (1735), Heinrich Brandes (1820), Heinrich Dove (1828), Matthew F. Maury (1850), and H. Piddington (1876). In the period between 1870 and 1875, a Catholic priest named Benito Vines working in the observatory of the Belem in Havana developed procedures which enabled him to predict and to give out warnings of hurricanes. If Columbus had had the benefit of Father Vines' advice, he would not have sailed the South Atlantic Ocean and the Caribbean Sea in September.

All of these scientists and navigators relied heavily upon the barometer developed in 1643 by Evangelista Torricelli of the Florentine Academy. Dr. Isaac Cline, who published his commemorated *Tropical Cyclones* in 1926, is considered by many to be the dean of hurricane savants. Working without the help of modern aids such as radar, multiple radio-equipped observation stations, instrument-bearing aircraft, and satellite photos, he developed techniques to detect, locate, and predict hurricanes with considerably greater accuracy and further in advance than had been done by any of his predecessors or contemporaries. This remarkable person continued to contribute to our knowledge of weather until his retirement when he expanded his hobby of art appreciation by opening and operating an art shop in the Vieux Carre of New Orleans.

Other instruments have been developed since Torricelli's time which have helped in the study, measurement, and prediction of hurricanes. In 1843 Lucien Vidie produced the first aneroid

barometer which may not be as accurate as the mercury column, but it is a lot more compact, seaworthy, portable, and handy—especially on aircraft. The cup anemometer with three or four cups is usually rooftop—or tower-mounted with its rate of rotation calibrated to indicate wind velocity. There are other anemometers, usually hand-held and compact, which translate wind pressure to velocity. Balloons are released and tracked to determine velocity and direction of winds aloft. Wind socks, common at airports, indicate the direction of the wind and are also a rough indication of the velocity. A familiarity with the angle of droop tells the pilot and others how hard the wind is blowing. A wind sock blown straight out is usually an indication of wind at 15 knots. The telegraph and then the wireless or radio enabled meteorologists to plot isobars to delineate cyclonic air pressure contours. When such "pictures" began to emerge from positions at sea as well as inland, they were a tremendous help in visualizing, tracking, and predicting tropical depressions. Then came the airplane with its human and mechanical observers, recorders, and transmitters which will give the final word on the antics of Alphonse, Baykin, Cinderella, Dominic, Eulalia, et al as future hurricanes might well be named. Radar has been a tremendous step forward.

Besides the falling barometer, there are other on-site visual indications of approaching hurricanes. In normal sequence, these will be rising sea tides, long swells moving in the direction of travel of the center and well ahead of commensurate, causative winds; high cirrus clouds well ahead of and moving in the general direction of the hurricane; next warm, humid winds which produce waves in their own direction; and then low fragmented clouds scudding from

the right to the left of the line of travel of the storm.

These are replaced by intermittent showers with gusty winds at ever closer intervals. The barometer may pulse, but it will fall more and more rapidly since the pressure gradient is steeper and the isobars closer together nearer the center. By this time, the wind in your vicinity is settling down to an ever-increasing fury, and assuming a steady direction. If you live on or near the coast of the Gulf of Mexico and this increasing wind stays close to the east, the hurricane is probably coming straight at you from the south. Batten down and/or get out! Remember that the force of a wind is proportional to the square of its velocity; that is, a 70 mph (about 20 psf) wind will produce twice the pressure of a 50 mph (about 10 psf) wind, while a 100 mph (about 40 psf) hurricane will have twice the pressure of a 70 mph wind and four times that of a 50 mph wind.

The period of the swells mentioned above is important in estimating the strength of the approaching storm. In open water in the Gulf, the normal period is for about twelve to fifteen waves per minute. A full hurricane (75 mph) when still some distance away will pro-

duce only four to five long swells per minute while a really big hurricane will have an even lesser number. To run this test, select an area open to the sea—not confused by obstructions such as islands, breakwaters, or local chop-producing winds—and count for several minutes.

Many agencies or companies have issued or have announced lists of things to do in case of hurricanes. To be most valuable, these should be tabulated into three sections: what to do before (food, ice, gasoline, batteries, etc.), during (stay inside mostly), and after (stay home and clean up, avoid contaminated water and downed electrical lines, etc.). Remember that hurricane winds and high tides precede the eye of the storm by 100 miles or more so don't be prematurely lulled into complacency by the lesser winds or calm of the eye. Also remember that floods frequently come after the storm. In many hurricanes, much more damage is caused by surges, flood tides, or rainfall flooding than by wind. Flood tides of over twenty feet have been experienced along our Gulf Coast (remember Camille!) and as much as forty-six feet in the Marshall Islands. These surges may add to the normal gravitational tides caused by the sun and moon. Fortunately, the

Gulf diurnal tides are low, about one or two feet high. However, our shoaling waters tend to increase the heights of waves, swells, and surges as they approach shore.

The first recorded hurricane to hit New Orleans occurred on September 11, 1722, when the new city was only four years old. It is reported that this hurricane destroyed nearly every building in the fledgling town. However, this is no indication of its force since these buildings were probably merely frail wooden huts.

Perhaps as time goes on and scientific knowledge increases, our accuracy of prediction will also increase. Studies are constantly being made of such phenomena as the influence of seawater temperatures, the effect of high altitude, high velocity winds (jet streams), and how and why some hurricanes differ from others, as well as the possible use and value of strategically placed offshore radar towers. There are no indications that those hurricanes with feminine names are more violent or unpredictable than their masculine counterparts. Perhaps in the distant future man will even be able to control hurricanes! **LE**

Spring 1990 Engineering Management Courses

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 fee per participant is \$325 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.

Classes will be organized Mon., Jan. 8, 1990 in Room 503, LSU Medical Center, New Orleans - 7:30 PM, on Tues., Jan. 9, 1990, in Room 3133 CEBA Bldg., LSU, Baton Rouge - 7:30 PM.

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.

AVAILABLE COURSES

- Course A — Modern Management
- Course B — Project Management with CPM/PERT
- Course C — Engineering Economy
- Course D — Financial Decision Making
- Course E — Automation and Computer Aided Manufacturing
- Course F — Basic Engineering Statistics
- Course G — Human Relations
- Course H — Cost Estimating
- Course I — Statistical Quality Control

Please complete the following form and return it to the address below if you are interested in the program. (Classes will begin during the week of Jan. 15, 1990).

Name _____
Address _____ Phone _____
City & State _____ Zip _____

MAIL FORM TO:

Dr. L. Mann
Industrial Engineering Dept., CEBA Bldg.
Louisiana State University
Baton Rouge, Louisiana 70803-6409
Phone: 388-5112

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).

COURSES OFFERED

- () Management
- () Project Management
- () Engineering Economy
- () Finance
- () Automation
- () Statistics
- () Human Relations
- () Cost Estimating
- () Quality Control

LOCATIONS

- () Baton Rouge
- () New Orleans
- () Monroe
- () Alexandria
- () Shreveport
- I cannot attend on the following nights:

M____T____W____Th____

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The NCEE and Engineering Educators Must Work Together to Improve Education

By J. Harry Parker, PE, PS

Has engineering education kept up with the demands of the public from the engineering profession? The answer is perhaps not, if recent results of the Fundamentals of Engineering Examination are any indication.

The number of registration applicants passing the FE exam is decreasing at a rate that concerns the NCEE and other organizations committed to the profession. All of the 17 disciplines included in the examination show a decline in 1988 in the number of passing students compared to the 1984 examination results.

For example, the percentage of passing applicants enrolled in civil engineering programs fell from 69% in 1984 to 59% in 1988. The passing percentage of students in sanitary engineering also dropped 66% in 1984 to 55% in 1988. This apparent lack of basic engineering knowledge among applicants has the boards of registration concerned that education is not meeting the needs of potential engineers. Other organizations agree.

The National Science Foundation has reported that "undergraduate education in engineering contains serious deficiencies." It added, "courses and curricula are frequently out of date in content and relevance." In addition, the American Society for Engineering Education released a study that explored the need for continued professional development and the use of new education technology.

The Accreditation Board for Engineering and Technology issued its report on accreditation for the 1987-1988 academic year of 391 programs which underlines the reasons for national concerns for the quality of engineering education.

- "35% of programs reviewed (135) received six-year terms up from 28% in 85-86 but below the 41% of 1986." (65% did not)
- "Three-year actions are still near record highs 43%"

EXAMINATION SCHEDULE and APPLICATION DEADLINE DATES

EXAMINATION	SPRING		FALL	
	Application Deadline Date	Examination Date	Application Deadline Date	Examination Date
Fundamentals of Engineering Examination (8 hrs.)	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Principles and Practice Engineering (8 hrs.) Civil (Including Structural & Sanitary), Mechanical, Chemical, & Electrical	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1989	Oct. 28, 1989
Agricultural, Industrial, Metallurgical, Mining & Petroleum	NOT AVAILABLE		Aug. 1, 1989	Oct. 28, 1989
Fundamentals of Land Surveying Examination (8 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Principles and Practices of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 8, 1989	Oct. 28, 1989
Laws and Procedures of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	NOT AVAILABLE	

Apply at least six to eight months prior to an examination. Board approval must be given for anyone to be scheduled for an examination.

The applicant and the Board depend upon information provided by third parties in the processing of an application, therefore no assurance can be given that one will be scheduled for a specific examination.

Application Deadline date means that an application **must** be postmarked prior to or on the date specified so as to be given **consideration** for the examination. The Board may schedule an applicant for an examination later than that requested by the applicant. The Board cannot guarantee that the applicant will be scheduled for the examination initially requested.

- "Not to accredit actions have fallen from highs in the early eighties to 2%."
 - "Show cause actions resulted for 19 programs."
 - "Data indicates 65% of the programs that warranted less than maximum accreditation were deficient in the areas curriculum, especially engineering design."
 - "A National Congress on Engineering Education was convened to discuss faculty, curriculum, laboratory and general issues, and find direction for improvement of the quality of that education."
- The ASCE PRODEX Committee has commented on its member's concerns:
- There is an apparent tendency of academe to require doctorate degrees for instructors at all levels. It is the opinion of some PRODEX members that qualified instructors need not

- have doctorates or advanced degrees, especially for lower division courses.
- There is apparent omission of engineering fundamentals in some engineering curricula. Also, there is apparent omission of design courses to teach use of engineering fundamentals in some engineering curricula.
- There is emphasis on research, rather than teaching students in most engineering curricula. It is understood that research grants are necessary funding measures, but it appears that some schools overly stress research, rather than teaching the students.
- Engineering instructors of all levels should have practical experience when teaching design courses in an engineering curriculum.
- It appears in some engineering curricula, emphasis is placed on compu



**Paul L. Landry, P.E.,
Executive Secretary
Louisiana State Board of Registration for
Professional Engineers & Land Surveyors.**



operations, rather than engineering fundamentals and using the computer as a tool.

- There is a growing language barrier and level of understanding between professors and students.

For engineering education to be relevant to the public need for quality in the practice of engineering, we must first identify the educational needs, and, second, find the human, technical, and financial resources to meet those needs. Perhaps no one knows better than our engineering educators, the difficulties associated with either identifying the needs or obtaining the resources.

Educators are facing challenges typical of any dynamic situation; in this case, a continuing evolution of education to meet the basic and changing needs of the engineering profession. These challenges also are of concern to the NCEE, which prepares examinations for engineering and surveying registration.

Because the members of the Council and educators share a similar obligation to the public — to ensure that engineers have reached at least a minimum level of competence in the knowledge needed to practice engineering — it's to the advantage of both to work together to improve engineering education. The NCEE has valuable resources in its examinations and nationwide job analysis programs of the engineering profession, which can help in the evaluation of the quality and effectiveness of engineering curricula.

To prepare its exams, the NCEE must determine what knowledge and skills are needed for the tasks performed by engineers and surveyors. Examination questions must be relevant to the various disciplines and cover the new technologies in use in the real world.

To ensure that registration applicants are tested by reliable measurement of competency, the Council conducts periodic job analysis of the engineering and surveying professions. An analysis involves polling licensed and unlicensed engineers and surveyors to identify the tasks performed on the job, and the knowledge, skills and abilities required to perform that job.

The results from these analyses enable the NCEE to evaluate whether the examinations measure to job-related abilities of registration applicants. The analysis also provides statistical data, used to develop exam specifications based on the activities of engineers and surveyors in the work place.

In addition, the results can be used to evaluate various aspects of engineering education, including the effectiveness of the teaching of basic and discipline en-

gineering knowledge and the relevance of curricula to the current practice of engineering.

Continued on page 15

BOARD MEETING NOTICE

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors will hold its regular meetings at 1055 St. Charles Avenue - Suite 415, New Orleans, La. 70130 on the following dates:

1989

Nov. 14

1990

Jan. 23 July 24

Mar. 27 Sept. 25

June 5 Nov. 13

Enforcement Corner

**by Registration Board Investigator
Benjamin S. Harrison**

Over the past three or four years, registered engineers and land surveyors increasingly voiced their concern regarding what they perceived as little or no punitive action against non-licensed engineers and surveyors who violated the engineering and land surveying registration statutes of Louisiana.

The Board was hampered by a lack of direct jurisdiction over unlicensed persons, depending solely upon resolution of these cases by referrals to local district attorneys for action. Needless to say, few District Attorneys gave such cases high priority due to their significant case load of other violations, including felony and serious misdemeanor offenses. Most Board referrals to District Attorneys over the last seven years resulted in a refusal to prosecute the offender. There were various rationales for decisions not to prosecute, such as the defendant didn't mean to violate the law, wasn't aware of the law, had personal problems, only did the work for relatives, didn't make any profit, professionals to do the work weren't readily available or charged too much, etc., etc. After declining prosecution, a few District Attorneys agreed to assist the Board in getting the defendant to sign an affidavit of compliance prepared by the Board and to warn the defendant that subsequent violations could result in prosecution.

In most of these instances, the affidavit of compliance was significantly rewritten by the defendant's attorney with no objection apparently voiced by the appropriate District Attorney. The Board was then faced with either accepting the revised affidavit or having nothing to show for its attempts to protect the public.

Well, those days of limited recourse in regards to non-registrant violations of the Registration Law are now behind us. Thanks to the efforts of many professional engineers and land surveyors, professional societies, and legislators, the Board not only has the power to address these unlicensed individuals and firms under Act 149 of 1989, but intends to actively pursue those situations it is made aware of, or develops through its own efforts.

However, please keep in mind that the effective date of the law change was June 22, 1989, which means alleged violations occurring after that date can be addressed under this new law, but not those occurring prior to that date, as the law is not retroactive.

It is now up to the Board, public, and registered professional engineers and land surveyors to work together to eliminate non-registrant violations of the law. Those who in the past were guilty of practicing without a license must receive the message clearly, that no longer will such acts be tolerated.

Now, more than ever before, we need your help. Inform the Board when you become aware of incidents of unlicensed practice. When called upon for assistance by the Board, help as much as you can. Don't call the Board unless, you are willing to help. "Passing the buck" to the Board won't help. Don't be a professional who is a professional only when it serves his self interest. I've been told by some Louisiana professionals, "I got tired of telling the Board about things and nothing ever being done, so I quit" or "yes, this person has been violating the law for ten years, but as long as it never directly effected me, I didn't want to get involved. Now its effecting my practice, do something."

I can't accept these statements as being representative of the true professional engineer or land surveyor in Louisiana. Will the real professionals stand and be recognized?

Quality Doesn't Cost — It Pays

For the first time, owners, A/E's, contractors and government officials met face-to-face to address quality control as a joint responsibility.

Over the past few years, increasing attention has been focused on implementing successful quality management programs in the design and construction industry. Interest in this movement led the American Consulting Engineers Council's Quality Improvement Committee to recommend a conference bringing together 17 associations, corporations and government agencies to network and share ideas. Owners, operators, government officials, architects, engineers, and surveyors met in July to exchange techniques on improving the quality of their construction projects. The results are likely to be felt throughout our industry for years to come.

Entitled "Quality Management: Before, During, and After Construction," the conference was limited to 250 attendees. In two days of intense exchanges, this recurrent theme emerged: effective quality management requires total, top-to-bottom commitment and communication by all parties through every phase from conception to operation. While this concept might not be deemed profound, the conferees took home nuts-and-bolts details of how to make it happen.

Five sessions, each beginning with a "theme speaker" focused on these topics: "Pre-project Conception", "Designing the Design", "Contract and Bid Documents", "The Construction Phase", and "Operations—The Acid Test". After each presentation, attendees headed for roundtables to candidly outline their expectations, practices, successes and disappointments in trying to achieve better quality. The roundtables were led by trained conference registrants.

As noted elsewhere in this issue, keynoters and theme speakers stressed the importance of clear, frequent communications among all participants of a construction project. Conference chairman William M. Hayden observed that, "good internal communication begins with a firm's chief executive and extends to the blueprint machine operator. It is a state of mind that must permeate among

everyone on the staff. All must be motivated to provide high quality work regardless whether it is word processing of specifications or detailing structural connections."

Several participants wanted to include plaintiffs' lawyers specializing in construction disputes to future conferences. They also suggested speakers on Japanese quality management procedures, and "manufacturers or suppliers whose products can make or break our projects."

Concluding the conference, Hayden observed, "Starting today, our industry will never be the same. Until now, a few of you were developing and observing the basic tenets of quality management. As you leave this conference, you should be bursting with new, workable ideas on how to improve, or completely reorient, your own quality goals, policies and procedures. Those who aren't, will be left in the dust. We have learned a new standard of care. We are looking at a radical new standard of management."

Organizations cooperating in the creation and conduct of the Quality Management Conference: American Congress of Surveying and Mapping, American Consulting Engineers Council, American Institute of Architects, American Public Works Association, American Society of Civil Engineers, Associated General Contractors of America, Construction Management Association of America, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Federal Highway Administration, Florida Department of Transportation, Long Island Railroad, National Association of Counties, Naval Facilities Engineering Command, U.S. Postal Service, Society of American Military Engineers, Department of Veterans Affairs.

(From ACEC's Business Practice, September, 1989)

CEC/L Questions National Park Services Ad

Responding to complaints from its members, Consulting Engineers Council of Louisiana has requested its national organization, American Consulting Engineers Council, to investigate an ad that was recently placed in the *Commerce Business Daily*.

The advertisement issued by the National Park Services is for "indefinite quantity" engineering services, the funds for which are totally small business set-aside. The services are to be provided in the National Park Services Rocky Mountain, Midwest, and Southwest Regions. This comprises twenty-two states. The services were requested by the Denver Service Center. The ad stipulated that the Park Service is restricting letters of interest to engineering teams *only* within the Denver Metropolitan Area.

CEC/L has asked ACEC to look into this restriction imposed by this federal agency as an artificial barrier prohibiting qualified firms outside the designated area from applying for the project.

LSU Responds to CEC/L Regarding Research Vehicle

When it appeared that Louisiana State University was competing with the private sector with its recently acquired Research Vehicle for Geotechnical In-Situ Testing and Support, Consulting Engineers Council of Louisiana, Inc. called the university's attention to an article that appeared in a recent issue of *LSU Magazine* which purported that LSU would provide the fully-equipped vehicle for about one-half the daily rate charged by commercial geotechnical firms.

Officials at the university responded that the article was misleading. The university's aim is that the Research Vehicle (REVEGITS) be a technology transfer vehicle, and not a competitor. The letter further explains that "REVEGITS" is currently being utilized in instruction of a graduate course CE 7345 (In-Situ Soil Testing and Evaluation), and evaluation of ground conditions on LSU campus for research (i.e., CAMD Center, and Campus Safety). There currently is an international research activity with the French National Research Program which commenced this summer where cyclic PAF-76 pressuremeter, seismic piezo-cone probes, and Mostap samplers are being used in an LSU/French Administration collaborative research program. We are also planning to continue offering annual workshops and short courses (as we have done in the past) to transfer the newly developed



**Consulting Engineers Section
Warren J. Wilder
CEC/L Executive Director**



technologies in in-situ testing to engineers, contractors and other interested parties.

We are not, and have never had the intention of being in competition with the industry. We would, however, be interested in having our service available to *consultants*, like Consulting Engineers Council of Louisiana, and *contractors* on novel 'research' oriented jobs where the results would be of the *extent* and *caliber* to add to the state-of-the-art, and would be worthwhile from a scholarly viewpoint. Again, our aim is to be a technology transfer vehicle, and not a competitor."

EPA To Survey Asbestos Abatement Professionals

Deadlines for the nation's schools to develop and implement plans for minimizing or eliminating their asbestos hazards, required by the 1986 Asbestos Hazard Emergency Response Act, were extended from October 12, 1988 to May 9, 1989. And yet progress is slow. Many schools complain that complying with the Act is difficult. Congress is concerned that the cost, coverage and availability of liability insurance for schools, and a shortage of asbestos abatement professionals, is impeding the process of getting the asbestos out safely. To address these concerns, the U.S. Environmental Protection Agency is conducting an extensive survey of schools, asbestos abate-

ment professionals and the insurance industry. Questionnaires will be mailed to some ACEC members in September. If you receive a survey, please fill it out and return to the EPA. Send a copy to ACEC's Governmental Affairs office as well.

1015 15th St., N.W., Washington, D.C. 20005
(From "The Last Word," Sept. 9, 1989)

ACEC Seminars Scheduled

The Business of Design Consulting Workshop is scheduled for presentation October 23-27 in Williamsburg, Virginia, as noted in *The Last Word* during August. Even before that, an EJCDC seminar on contract documents will be held October 5-6 in Chicago. Here's the rest of the rundown as we know it now:

Ownership/Management Transition,
November 16, San Diego

Communications, with Gary D'Angelo, January 25 and 26 (half day each), Keystone, Colorado in conjunction with Winter Ex Comm Meeting.

Marketing and Long Range Planning (one day each, back-to-back), February, Florida.

Quality Management and Project Management (one day each, back-to-back), February 22 and 23 (San Diego or Phoenix)

EJCDC Contract Documents, February 15-16, Florida

Quality Management, March 29, Washington, D.C. (immediately after Consulting Congress Day).

For more information on these timely seminars, contact, ACEC, 1015 15th St., N.W., Washington, D.C. 20005

CEC/L Plans Fantasy Cruise

Consulting Engineers Council of Louisiana is planning a special event for its 1990 Annual Meeting. The group will be hosting a three-day cruise aboard Carnival's *Fantasy* liner, a \$200 million, 70,000 ton super ship, replete with the largest health spa found on any cruise ship and a Grand Spectrum ascending an unprecedented six decks to the largest glass dome ever constructed on any ship anywhere.

The cruise originates in Miami on March 30th, arrives in Nassau the next day. On Sunday, the group will sail the Caribbean, finally returning to Miami on Monday morning. The nominal \$800 per person fee includes round trip airfare from New Orleans, Baton Rouge, Monroe and Shreveport and round trip transfers between the airport and the *Fantasy*. Included as well are eight meals a day, port charges, a welcome aboard rum swizzle party, a number of other cocktail parties, a dinner hosted by the Captain, and the CEC/L banquet . . . and of course, a full gambling casino! LE

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"James S. Janssen, author of *Building New Orleans, the Engineer's Role*, has written another book, this one for children. Entitled *The Elves of Bellaire Drive*, it is a collection of tales of the activities and adventures of three elves who live in a hollow oak tree in Jim's backyard. It was originally written for his children and, later, his grandchildren (to whom it is dedicated). It is illustrated with sketches by Diane (Mrs. Dale T.) Hunn and published by Waldemar S. Nelson and Company, Incorporated. So, while it is not an engineering book, it is an engineering production. It is available in New Orleans at all Maple Street Book Shops."

Thomas Dudley Hixson, P.E., Installed as Vice President of National Engineering Society



Thomas Dudley Hixson, P.E., Vice President of Meyer, Meyer, LaCroix & Hixson, Inc., an engineering-consulting and land surveying firm located in Alexandria, Louisiana, was installed as Vice President, Chairman of the Professional Engineers in Private Practice (PEPP) division of the National Society of Professional Engineers (NSPE).

Mr. Hixson served as past president of the Louisiana Engineering Society and is a member of the NSPE/Professional Engineers in Private Practice (PEPP), Ad Hoc Committee on Political Contributions and was past chairman of the NSPE/PEPP Government Affairs Committee.

He was recipient of the Louisiana Engineering Society's Andrew M. Lockett Award and also received the Medal for Distinguished Civic Service. Mr. Hixson is a Registered Professional Engineer in the states of Louisiana, South Carolina, and Mississippi. He holds a B.S. in Civil Engineering from the University of South Carolina.

Mr. Hixson is a member of the Board of Directors and a past president of the Alexandria Downtown Lions Club and a past president of the Alexandria-Pineville Chamber of Commerce. He is a member of St. Timothy's Episcopal Church.

Dudley Hixson and his wife Reba reside in Alexandria. They have three children.

The National Society of Professional Engineers, headquartered in Alexandria, Virginia, represent more than 75,000 professional engineers, land surveyors and engineer students in all technical branches of the profession. The Society works to achieve high standards of professionalism among practicing engineers.

William J. Thevenote, P.E. Appointed to State Board of Registration



William J. Thevenote, P.E., Senior Vice President with Central Louisiana Electric Company, Inc., Pineville, LA, has been appointed by Governor Roemer to the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. The appointment became effective September 7 and is for a period of six years.

Thevenote replaces Francis C. Roy, P.E., of Lake Charles, LA, who has been a member of the Board for the past nine years.

Thevenote has spent 30 years of his professional career with Central Louisiana Electric Company, Inc., having received his Bachelor of Science Degree in Electrical Engineering from Louisiana State University.

He is a member of the Louisiana Engineering Society, the Kiwanis Club of Pineville, the Sierra Club, the Chamber of Commerce, and the Louisiana Association for Business and Industry.

As Senior Vice President of Engineering, Mr. Thevenote is responsible for Transmission Line Design and Construction, Transmission Substations Design and Construction, Communications Design and Maintenance, Budgeting and Scheduling, System Planning - Transmission and Distribution, System Protection, Material Standards, Electric System Maintenance, Electric System Metering, and contracting officer with other utilities.

"Engineer Your Way To Success"

America's top engineers sharing their personal advice on what they look for in hiring and promoting has been condensed into a publication by NSPE, "Engineer Your Way to Success." "Engineer Your Way to Success" answers important

questions about your future in engineering:

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This book is like no other career book you'll find—it's engineer-specific. Whether you're an engineering student or an experienced engineer, "Engineer Your Way to Success" is the best book you can get for yourself, your employees, or any engineer who wants to enhance his or her career.

The publication can be purchased by contacting NSPE, 1420 King Street, Alexandria, VA 22314. The cost is \$15.95 for members and \$18.95 for non-members.

Kenneth A. Perret, P.E. Promoted

Kenneth Perret, P.E., member and past president of the Baton Rouge Chapter and past State PEG Chairman recently received a promotion to a new position in the Washington, D.C., office of the Federal Highway Administration.

Ken will serve as Chief of the Environmental Programs Branch and will be responsible for the development and administration of national policies, procedures, standards, guidelines, and plans to comply with requirements of Section 109(h) regarding social and economic effects, Section 128 (Public Hearings, etc.) of 23 U.S.C., and Section 404 of the Clean Water Act. Ken will provide leadership in streamlining FHWA requirements and procedures for project planning, location, environmental documentation, public involvement and related pre-construction activities and in merging these requirements and procedures with those of other Federal agencies. He will develop agreements to improve interagency coordination. Ken will also provide authoritative expertise to Federal, State and local officials, including Congress and State legislatures, and the public on Branch policies and regulations.

The effective date of Ken's transfer was August 27 and he and his family will be living in the suburban community of Centreville, VA.

IN MEMORIAM

Cecil M. Shilstone, P.E.

Cecil M. Shilstone, P.E., a life member of the Louisiana Engineering Society expired on June 19, 1989. Mr. Shilstone was owner and president of Shilstone Testing Laboratories, a New Orleans firm with a branch office in Houston, TX. He was well-known among the members of the New Orleans Chapter and in 1977 ran for Mayor of New Orleans.

A lifelong resident of New Orleans, he graduated from Tulane University and did post graduate work at the University of Heidelberg and the University of Jena in Germany.

For years, he was on the Sewerage and Water Board and other boards, including Louisiana Council for the Vieux Carre, Loyola University, Gulf South Research Institute and the Greater New Orleans Tourist Commission.

He was a member of the American Chemical Society, the American Oil Chemists Society and the Pickwick and Plimsoll Clubs.

The members and Board of Direction of the Louisiana Engineering Society express our deepest sympathy to his wife Frances, and son, Cecil, Jr.

E. Walter LeFevre, P.E., Installed as President of National Engineering Society

Dr. E. Walter LeFevre, P.E., Professor of Civil Engineering at the University of Arkansas (UA) in Fayetteville and also a Senior Vice President (Principal) of Engineering Services, Inc., a consulting firm in Springdale, was installed as President of the National Society of Professional Engineers (NSPE).

Twice an NSPE Vice President, once for the Southwestern Region and once as Chairman of the Professional Engineers in Education practice division, LeFevre has also served as NSPE National Director from Arkansas, as a Trustee of its Political Action Committee and of its Education Foundation. He has been President of the Arkansas Society of Professional Engineers, which named him Engineer of the Year, and of the State Board of Registration for Professional Engineers and Land Surveyors, and held many posts on numerous technical and professional engineering committees.

LeFevre also is active in the American Society of Civil Engineers (where he is a Fellow), the American Society for Engineering Education, the Accreditation Board for Engineering and Technology

(where he represents NSPE), the National Council of Engineering Examiners and on campus at UA, where, among many other activities, he founded and was the first Director of the two centers for improving writing and speech in the College of Engineering. Additional memberships include the State's Advisory Council on Transportation Research and Technical Education Review Commission, Sigma Xi, Chi Epsilon honor society and the Arkansas Academy of Civil Engineers, of which he was a charter member.

In Springdale, LeFevre has been an active participant in PTA, Rotary Club Masons, Boy Scouts, the Library Commission, the Board of Adjustments and

his church. He is a Registered Professional Engineer in the states of Arkansas and Texas and is listed in four *Who's Who*. He earned B.S. and M.S. degrees in civil engineering at Texas A&M University and a Ph.D at Oklahoma State University.

Walt LeFevre and his wife Joyce reside in Springdale and have four children.

The National Society of Professional Engineers, headquartered in Alexandria, Virginia, represent more than 75,000 professional engineers, land surveyors and engineer students in all technical branches of the profession. The Society works to achieve high standards of professionalism among practicing engineers. **LE**

Continued from page 11

The Council is completing and will soon implement its most recent task analysis - a new look at the current practice of engineering. To conduct the analysis, an advisory committee composed of engineers in various disciplines and technological societies assisted the NCEE in preparing a survey for licensed and unlicensed engineers. Participants were asked to describe their education, experience, and job position; and list the tasks performed, knowledge needed and linkage between the knowledge needed and the tasks performed.

The survey included questions on the importance of each task performed, its level of impact on society and the linkage between the knowledge needed to perform the task and the public's safety. The results of the analysis could be used as a predictor of the form and substance of future engineering education.

Educators may find it useful to compare the knowledge needed to practice engineering, as identified by survey participants, with current engineering curricula to determine its relevance. If certain

aspects of an engineering program do not correlate with the skills and abilities listed in the survey, curricula can be revised.

For example, the majority of structural engineers polled may say that 60% of their time involves using specific design skills. If teaching of those skills is not adequately provided for in ABET guidelines, programs geared towards structural engineering should be revised.

The educational needs of practicing engineers must be determined for engineering curricula to be relevant to society's demands. The NCEE, ASEE, ABET and other groups, with a stake in the quality of engineering education and its ultimate impact on the public's welfare, must concentrate their efforts on improving engineering curricula as well as the teaching and application of engineering knowledge.

A united effort by these groups can help assure the improvement of programs to adequately prepare students for an engineering career. **LE**

J. Harry Parker, PE, PS, is an NCEE Past President and is Vice-President of Cullinan Engineering, Boston, Massachusetts.

F.E. PASSING PERCENTAGE OF ABET ACCREDITED CANDIDATES

The following table contains the percentages of ABET accredited candidates which passed the Fundamentals of Engineering Examinations administered in April during a six-year period.

	1988	1987	1986	1985	1984	1983
Aeronautical	89	90	81	88	91	90
Agricultural	74	75	81	80	79	77
Ceramic	76	48	79	63	84	72
Chemical	77	79	84	82	87	85
Civil	59	59	62	64	69	67
Electrical	80	84	80	81	82	78
Fire Protection	57	46	50	45	57	25
Industrial	66	63	62	64	64	63
Manufacturing	52	44	64	53	100	80
Mechanical	81	80	81	80	86	84
Metallurgical	64	67	68	73	77	78
Mining/Mineral	56	54	56	59	59	64
Nuclear	82	89	89	88	92	82
Computer Systems	83	89	83	84	84	83

LES Awards Program

Bobby E. Price, Ph.D., P.E. Chairman
Honors and Awards Committee

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.

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 Award for Services to the Profession

Nominations may be submitted to a member of the Honors and Awards Committee, or to the Honors and Awards Committee in care of the State Office, no later than November 3, 1989. Nominations for the awards must be submitted on the appropriate form. These forms were delivered or mailed to each Chapter on September 8. 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. It is essential that such documentation carry the present title and company connection of the nominee, and set 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 Director by November 3, 1989.

Awards will be presented during the Society's spring meeting in Lake Charles.

Nominations for recipients of the awards may be made by:

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

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LES Board of Direction Meeting Highlights

March Meeting

The March meeting was held in Monroe, LA, with eighteen board members, 1 guest and the LES staff present.

1. Financial reports for December 1988, and January and February, 1989, were accepted subject to the annual audit.

2. The 1987-88 audit completed by the Society's CPA was distributed to the Board. The members were requested to review the audit and be prepared to discuss it at the next meeting.

3. A Membership Report was distributed to the Board. The Baton Rouge Chapter is leading the membership recruitment competition having achieved 92% of its quota. Overall, the chapters have achieved 44% of the state quota with 42% of the year expended.

4. The Public Relations Chairman will prepare a standard news release announcing LES's support of the Physical Reform Package being submitted to the voters on April 29 encouraging all LES members to support the package. The Legislative Committee submitted copies of drafted bills on the private works act and the public works act. The Board approved the bills and directed that they be filed. The State Board of Registration amendments to the Registration Law was discussed with direction to include additional language.

5. The Task Force on Continuing Education is collecting data on this subject. The issue of continuing education for registration renewal is controversial. A seminar on the subject will be planned for the October Annual Meeting.

6. Price has corresponded with members of the Nominating Committee requesting nominees for state officers. The deadline for receipt of all nominees is April 18.

7. The Professional Engineers in Government division held a joint meeting with the Louisiana Society of Professional Engineers in Civil Service. The meeting was very successful with President Reeves as the guest speaker.

8. President Reeves advised that the Chairman of the Task Force on Desegregation in Higher Education has continued to monitor the Court proceedings. The Society contacted the Governor's office and the attorneys for the State Board of Regents to obtain permission to testify before the Courts. The Society was unable to obtain this permission and

moved rapidly to develop a Position Paper for the Courts. The Paper was developed and the Board of Direction polled by telephone for their support of the Governor's plan as submitted to the Courts. The Paper was hand delivered to John Kennedy, Special Counsel to the Governor, requesting that he transmit the paper to the Special Master, Dr. Paul R. Verkiul, for consideration by the Court.

9. Members of the Publication Committee and President Reeves met with representatives of the State Board of Registration to review the funding formula for the *Louisiana Engineer* magazine. The meeting was successful and the two organizations agreed to continue the formula as established as a method of determining the fair cost of each organization.

10. Raymond Pillow, P.E., member of the Engineers Selection Board whose term expires June 30, 1989, has resigned. It is the Society's responsibility to appoint someone to fill this vacancy. Kenneth Perret, P.E., was nominated to fill this vacancy.

11. The practice division screening committee submitted nominees to the Board to fill two positions on the Engineers Selection Board. The names of Jerry Moch, P.E., and Jeff Dykes, P.E., will be placed on the ballot for the Engineers Selection Board.

April Meeting

The April meeting was hosted by the North Lake Chapter in Covington, LA with twenty-two board members, 5 guests, and the LES staff present.

1. The Constitution and Bylaws Committee received authorization from the Board to rewrite the LES Constitution and Bylaws without a timetable. There are many needed changes. The LES Charter will expire in 1997, and the Committee wants to upgrade the Constitution and Bylaws into perpetuity.

2. A task force was approved that would comprise a representative from each practice division and one member of the Education Committee to establish a set of criteria and utilize it to evaluate the strengths and weaknesses of each of the undergraduate disciplines of engineering in the state supported universities. The task force will exclude engineering faculty and graduates of Louisiana State supported universities.

3. The Board of Direction approved a \$1,000 contribution to the NSPE Educa-

tion Foundation to fund the scholarship program.

4. The March 1989 financial report was accepted subject to the annual audit.

5. The Board accepted the 1987-88 audit (compilation) with a recommendation that the Executive Committee determine if the compilation should be continued for next year.

6. A Membership Report was submitted. The Committee predicts a 5% drop in membership this year. A draft proposal for an "LES Sustaining Membership Program" was distributed for the Board's perusal.

7. A Public Relations Master Plan was submitted and adopted by the Board. The Executive Committee will review funding methods during the budget meeting.

8. Ritter advised that PEPP had requested research be conducted to determine if legislation could be filed to define a clear contract between the engineer and the bonding company. The attorney recommends that a language change be made in the Contract Documents between the architect, engineer, and owner. Prefiled legislation is now being reviewed by the Legislative Committee.

9. A recommendation was made to the Board to enter an amendment to the registration law concerning the appointment of retired members to the State Board of Registration. It was determined that an amendment to the registration law should be reviewed closely by all practice divisions, the LES Board, and the State Board of Registration. The proposed change was referred to the Legislative Committee to possibly develop appropriate legislation for the 1990 legislative session.

10. The Task Force on Continuing Professional Development met and feels that the concept of continuing education is valid and should be pursued. Future plans of the Committee are to meet and develop a plan of action to further define the need and direction of a continuing education program. A questionnaire and seminar are being planned.

11. The slate of officers as submitted by the Nominating Committee was unanimously accepted. They are: 1st Vice President and President Elect, Kerry J. LaBauve, P.E.; 2nd Vice President, Lloyd G. Hoover, P.E.; Secretary-Treasurer, Glynn P. Gautreau, P.E.; National Director, James L. Meyer, P.E.;

and State Directors, Ronald J. Rodi, P.E. and Foy B. Gadberry, P.E.

12. Louisiana has completed its state MATHCOUNTS competition. Two hundred teams are registered for the national competition.

13. The New Orleans Chapter was authorized to compete in the NSPE National Competition for Outstanding Chapter in the large chapter category.

June Meeting

The June meeting was hosted by the Shreveport Chapter with nineteen board members, four guests, and the LES staff present.

1. Financial reports for April and May were accepted subject to the annual audit.

2. NSPE Membership Recruitment Packages were distributed to the Board and discussed. The Membership Committee will explore a better way to handle student members who graduate and leave the state. The Membership Brochure should be printed and into the hands of the chapters within several weeks.

3. A legislative report was submitted. House Bill #735, which makes numerous revisions to the registration law, authored by Representative Terry Gee, has passed the House Floor and is awaiting Senate action. Senate Bill #110, amendment to the Private Works Act, authored by Senator Larry Bankston, passed the House and Senate Committees unanimously. Approved on the Senate Floor 35-0. The bill awaits House action. Senate Bill #112, provides for claims filed under the Public Works Law, authored by Senator Larry Bankston, passed the House and Senate Committees unanimously. Passed the Senate Floor 38-0. Awaiting House action.

4. A proposed change in the structure of the Ethics and Professional Conduct Committee was referred to the Constitution and Bylaws Committee.

5. Louisiana ranked 13th in the National MATHCOUNTS Competition.

6. The first draft of the LES/NSPE Dual Membership Task Force report is being edited and will be sent to the members of the Committee for critique and a final draft will be submitted to the Board.

7. The Professional Engineers in Government division has established an award to recognize professional engineers employed in the government fields. More information will be forthcoming in the *Louisiana Engineer* magazine.

8. A memorandum from NSPE/PEPP concerning the National Association of Attorneys General set of model Owner-Design Professional, Owner-Contractor, and General Conditions documents was distributed to the Board. It is the belief of NSPE/PEPP that the set model contracts will complicate the design and construc-

tion process and lead to increased controversies and litigation. This item is on the agenda for the PEPP meeting in Minneapolis.

9. The Attorney General has ruled that an engineer appointed to the State Board of Registration by Governor Edwards, but not confirmed by the Senate, is eligible to be resubmitted on a list of candidates to the Governor. A list of engineers for the government member will be submitted to the Governor.

10. Amendments to the "LES Guidelines for Selecting Nominees to the State Board of Registration" were adopted to include language for potential candidates who have "retired" but continue to be employed or engaged in the practice of engineering. LE

New Registrants

CHEMICAL

Dilip K. Das
Baton Rouge, LA
Frederick A. Wales
LaPlace, LA
William D. Constant
Baton Rouge, LA
Jerome K. Dehey
Austin, TX
Donna R. Duessel
Kenner, LA
John M. Fulgenzi
Harvey, LA
William L. Green
Destrehan, LA
Arthur B. Guillory
Port Allen, LA
Mark J. Isom
Wichita, KS
Kevin B. Jackson
Baton Rouge, LA
William J. Lambert
Denham Springs, LA
Philip E. LeBlanc
St. Gabriel, LA
Susan T. Litherland
Houston, TX
Jude B. Olivier
Baton Rouge, LA
Martin C. Poole
Baton Rouge, LA
Daniel E. Adams
Baton Rouge, LA

CIVIL

Edward K. Anderson
Little Rock, AR
Miles M. Bingham
New Orleans, LA
Cary A. Bourgeois
Baton Rouge, LA
John O. Braga
Orlando, FL
Leon A. Broussard
Lafayette, LA

Ferris W. Chamberlin
LaPlace, LA
Chandramohan Chandrasekharan
Thibodaux, LA
Jose L. Clemente
Columbia, MD
Keith D. Crump
Pineville, LA
Frank E. Degasperis
Pittsburg, KS
David H. Dupre
Kenner, LA
Theodore B. Elits
Natchitoches, LA
Gary W. Eldridge
Alexandria, LA
Sidney A. Faas
Robstown, TX
Paul D. Fryer
Calhoun, LA
Gavin M. Fury
Metairie, LA
Ronald K. Gallien
West Monroe, LA
Steven G. Gauthier
Pineville, LA
Gerard Giroir, Jr.
Kenner, LA
Dexter L. Grogan, III
Shreveport, LA
Timothy D. Hogue
Sulphur, LA
Thomas L. Holtzclaw
West Monroe, LA
John R. Hutchins
Seattle, WA
Damon J. Jackson
Jennings, LA
Ronald J. Jakaitis
Boulder, CO
Robert S. Jiles
Lake Charles, LA
Joseph L. Johnson
Shreveport, LA
Joseph P. Killeen
New Orleans, LA

John M. Kuhn
Berwick, LA
Philip J. Lachin
New Orleans, LA
Patrick J. Landry
Lake Charles, LA
Anne C. Lauderdale
Metairie, LA
Alain L. Lignieres
Metairie, LA
Dale M. Marchand
Marrero, LA
Michael H. Marks
Morgan City, LA
Angelo L. Masullo, Jr.
Pittsburgh, PA
Raymond J. McCabe, III
Metairie, LA
Jyotikumar S. Mondkar
Mandeville, LA
Tomas J. Nally
New Orleans, LA
Harley A. Nethken
Slidell, LA
Hossein A. Novin
Overland Park, KS
John G. O'Connor
New Orleans, LA
John W. Oglesby
Baton Rouge, LA
William J. Oliver, Jr.
Bassile, LA
Robert E. Oswald, Jr.
Jefferson, LA
Richard W. Palmer
Slidell, LA
Norman C. Rennalls
Sugarland, TX
Richard I. Riggins
Hendersonville, TN
Gregory L. Ruiz
Morgan City, LA
Mohammad Sadreddini
Scott, LA
Joseph V. Schultes
Arlington, TX
Bradford S. Shaffer
West Monroe, LA
Lloyd P. Short
Shreveport, LA

Joseph A. Simoneaux
New Orleans, LA
Jerry M. South
Birmingham, AL
Charles W. Stutes
Lake Charles, LA
Chung-Chu Teng
Slidell, LA
Robert J. Thomas
Baton Rouge, LA
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Rene J. Tullier
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Matthew L. Virden, IV
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Terry R. Washington
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Thomas B. Watson, III
Baton Rouge, LA
John B. Wintz
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1. Title of Publication: **LOUISIANA ENGINEER**

2. Issue of First: **00248794**

3. Date of First: **9-13-89**

4. Frequency of Issue: **Quarterly**

5. Number of Issues Published Annually: **4**

6. Annual Subscription Price: **\$1.85**

7. Complete Mailing Address of Known Office of Publication (Street, Box and ZIP+4 Code):
Louisiana Engineering Society, P. O. Box 2583/1213 Nicholson Drive, Baton Rouge, LA 70821

8. Complete Mailing Address of the Headquarters or General Business Office of the Publisher (Not print):
Same as above

9. Full Names and Complete Mailing Addresses of Publisher, Editor and Managing Editor (Not print):
Publisher (Name and Complete Mailing Address):
Louisiana Engineering Society, P. O. Box 2583/1213 Nicholson Drive, Baton Rouge, LA 70821
Editor (Name and Complete Mailing Address):
Leta S. Burtis, P. O. Box 2583/1213 Nicholson Drive, Baton Rouge, LA 70821
Managing Editor (Name and Complete Mailing Address):
Leta S. Burtis, P. O. Box 2583/1213 Nicholson Drive, Baton Rouge, LA 70821

10. Owner (Do not print):
Louisiana Engineering Society, P. O. Box 2583/1213 Nicholson Drive, Baton Rouge, LA 70821

11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities (Do not print):
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The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes (Check one):
☒ (a) Not for Profit
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☐ (c) Other (Specify):

13. Extent and Nature of Circulation (Do not print):

Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
A. Total No. Copies (Net Press Run)	20,333
B. Paid and/or Requested Circulation	20,242
1. Sales Through Dealers and Carriers, Street Vendors and Counter Sales	-
2. Mail Subscriptions	20,242
C. Total Paid and/or Requested Circulation (Sum of B1 and B2)	20,242
D. Free Distribution by Mail, Carrier or Other Means	10
1. Outside the United States	10
2. Within the United States	0
E. Total Distribution (Sum of C and D)	20,252
F. Copies Not Distributed	225
1. Office use, left-over, unsolicited, spoiled after printing	225
2. Return from News Agents	0
G. TOTAL (Sum of E, F, and G) (Do not print)	20,477

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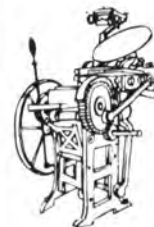
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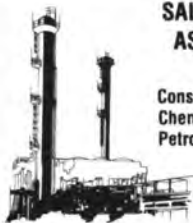


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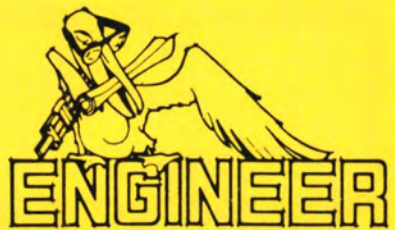
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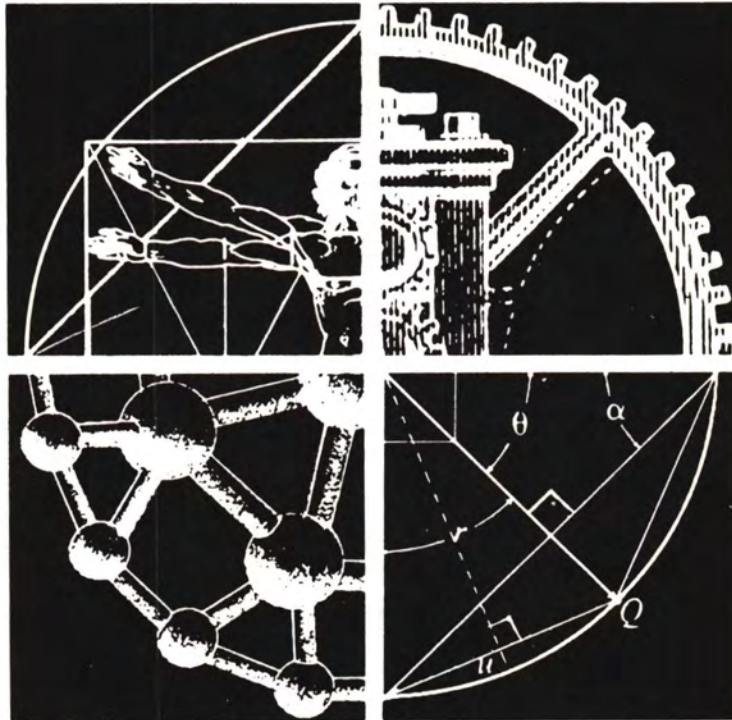
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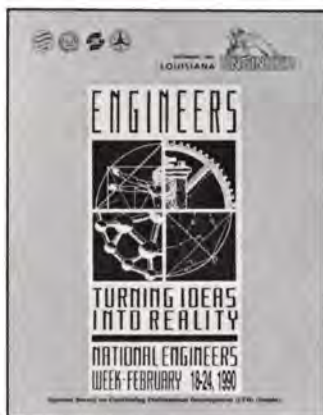
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The LOUISIANA ENGINEER is the official publication of the Louisiana Engineering Society. The LOUISIANA ENGINEER is the journal of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. The magazine is published in February, April, June, August, October and December. Subscription \$2.00 per year for engineers registered in Louisiana and non-registered members of the Louisiana Engineering Society. Two dollars of each LES member's annual dues is set aside for six issues of the LOUISIANA ENGINEER. 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. ISSN: 0024-6794

Address LES Communications and Change of Address Forms to LOUISIANA ENGINEERING SOCIETY, P. O. Box 2683, Baton Rouge, La. 70821. Telephone 504/344-4318; 1213 Nicholson Drive, Baton Rouge, La.

Presidential Privilege

On October 7, 1989, Amendment Number One, establishing Louisiana's Transportation Trust Fund, was approved by over seventy percent of those voting in the statewide election. As an amendment to the Louisiana Constitution, it requires all gasoline, motor fuel and special fuel taxes to be dedicated solely for the construction and maintenance of the roads and bridges on the state and federal highway systems, the Highway Priority Program, the statewide Flood-Control Program, ports, airports, transit systems, state police and the Parish Transportation Funds. The adoption of Amendment One also activated the provisions of the Transportation Infrastructure Model for Economic Development (TIME) program by imposing an additional four cent tax on gasoline and special fuels, and by removing the current three percent sales tax. Effective January 1, 1990, Louisiana's gasoline, motor and special fuel tax will be 20 cents per gallon. The dedication of these taxes to the trust fund will be phased in, starting with 12 cents (of the original 16 cents) beginning on January 1, 1990; 14 cents on July 1, 1990; and 16 cents on July 1, 1991. All 4 cents of the TIME program will go directly into the trust fund beginning January 1, 1990.

Additionally, the voters approved an amendment to the Constitution which raised the automobile license plate tax to ten dollars (\$10) for the first \$10,000 of vehicle value, plus one dollar (\$1) for each additional \$1,000 of value. These funds are also dedicated to the trust fund.

Based upon these favorable votes, trust funding for the Department of Transportation and Development will begin in January and will provide the DOTD with an opportunity to undertake proper planning, design, construction, operation and maintenance of the highway system with the assurance of a reasonable level of funding. From an engineering point of view, however, one of the real opportunities resulting from the trust fund is the rebuilding and strengthening of the professional engineering staff within the DOTD. For too many years, we have seen the state and the DOTD forced into the position of reducing personnel, offering early retirements and in general, dismantling the profes-



Blaise M. Carriere, P.E.
President
Louisiana Engineering Society

sional engineering staff. In some instances, entire departments were abolished or merged into other agencies. One such action was the consolidation of the state Department of Public Works into the DOTD with a greatly diminished role. This will be discussed in more detail later.

The first step that has been taken to elevate the professional role of the DOTD was the abolition of the four assistant secretary and under-secretary positions which were non-professional, political appointees. This action, taken by the Roemer administration and the legislature in 1988, has re-established the professional status of the Chief Engineer and the Director of Management and Finance.

In my judgement, it is important that the upper level positions in any government organization be earned by professionals advancing through the ranks. While not every engineer may aspire to become Chief Engineer, a career path must be available in order for an organization to effectively recruit and promote its professional staff. Along with this opportunity for advancement comes responsibility. As professional engineers in government, it is important that our greatest and best efforts be given to the public and taxpayers.

Over the years, the highway department, and now the DOTD, has had a

professional engineering staff experienced in planning, design, construction, operation and maintenance. Many of these sections have, over the years, lost significant numbers of personnel, while the overall highway system has remained at virtually the same size. Although we can hardly remember the day when we did not have an interstate system, these highways are, for the most part, a fairly recent addition to our infrastructure network. More recently, we have seen the addition of almost 200 more miles of interstate in the design and construction of I-49. This has taken place concurrently with reductions in all phases of the DOTD staff, including engineering. Many of you will also recall the statewide work of the former Department of Public Works, which was at one time the envy of similar departments in many other states. The DPW had responsibility for the five (5) major drainage basins in our state, thereby maintaining a professional engineering staff that was expert in flood control and water resources.

When Louisiana adopted its new constitution, it reduced the total number of state departments and called for merging the DPW into the DOTD. Since the five DPW drainage basin field offices did not complement the nine existing DOTD districts, the DPW field offices and their relation to the drainage basins were lost. Following that action, the public works' staff of experienced flood control and water resource engineers were "fit" into the drainage design section or other roles within the DOTD to the point where the strength and depth of those experienced engineering personnel in the state are no longer enjoyed. Given our numerous rivers, lakes, bayous and vast water resources, we should once again build a professional engineering staff in this area equal in stature to the bridge design, road design and construction engineering sections.

In summary, yes - the passage of the Trust Fund is truly a new beginning. As professional engineers, we all stand ready to unite and work with our professional engineers in government to rebuild an organization in which the people of Louisiana can truly be proud. The voters have expressed themselves; it is now up to us to get the job done. **LE**

Mandatory Continuing Professional Development: Necessary Requirement for the Registered Professional?

Bobby E. Price¹, P.E.

Introduction

Mandatory continuing professional development (CPD) for engineering license renewal is a complex and perplexing issue. It stirs the emotions of engineers in various ways. Some believe it is needed as a safeguard to the public welfare and the continued growth of the engineering profession. Others sense it to be an encroachment on the prerogatives of engineers to determine their own methods to maintain competence. Very few engineers take a "don't care" attitude.

This paper addresses the purpose of continuing professional development, its pros and cons, what the Louisiana Engineering Society and other various professional organizations are doing, what the states are doing in this area, how the mandated program in Iowa is operated, and some questions that must be considered for a mandated CPD program.

Purpose of Continuing Professional Development

The purpose of CPD should be to increase the competency of engineers, to encourage engineers to maintain competency in a systematic manner and to let the general public realize that professional engineers are working toward improved performance. Competency is a combination of an individual's knowledge, experiences and skills. Performance is the outcome of how that competency is used. (Phillips 1987)

Pros and Cons of Mandatory CPD

Some positive benefits of initiating mandatory CPD by the engineering profession are to (a) expand the knowledge and performance of individual practitioners; (b) increase the public's awareness and confidence in the engineering profession; (c) improve recognition and personal awards received from maintaining competence and improving performance; (d) follow the general trend of other professions in the nation to emphasize competency and currency of material; and (e) preempt legislative mandates to initiate competency requirements which may be detrimental to the engineering profession. (Price, Mar. 1989)

Some of the negatives of establishing mandatory CPD are that (a) the require-

ment may not be applicable to all engineers because of registration exemptions; (b) mandatory CPD is difficult to enforce and considerable extra expenditures are needed to monitor and enforce the requirement; (c) CPD is difficult to measure and evaluate; (d) the significant costs of courses, seminars, travel, and lost personnel time to the registrant's company may be prohibitive; (e) CPD may lead to future reexamination requirements to maintain registration; and (f) CPD can be successful only when done in close cooperation with the various state professional engineering organizations and the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. (Price, Mar. 1989)

LES Task Force on Continuing Professional Development

In November 1988, then LES President James W. Reeves, P.E., appointed a Task Force on Continuing Professional Development to gather information, to study the issue, and to bring recommendations to the LES Board of Direction for consideration. The Task Force presently consists of Richard Aillet, P.E. (Shreveport), Robert Blanche, P.E. (Baton Rouge), John Bruce, P.E. (Lake Charles), Tony DeMarco, P.E. (Alexandria), Malcolm Hurstell, P.E. (New Orleans), and Bobby E. Price, P.E. (Monroe), Chairman.

The Task Force recognized early that CPD is broader in scope than the traditional continuing education. CPD may entail such things as seminars, conferences, workshops, university courses, and correspondence courses; but CPD may also include attending professional organization meetings, serving as an officer of such organizations, practicing engineering or management of engineers, performing research, publishing papers or books, teaching in an ABET-accredited program, instructing continuing education courses or making presentations at technical meetings, and reading of engineering and trade journals.

The Task Force mailed a questionnaire to 52 of the state boards of registration (including some land surveying boards) and to 44 of the state engineering societies affiliated with the National Society of Professional Engineers (NSPE).

There were 42 responses from the state boards of registration and 33 responses from the state engineering societies—an excellent response. The results of the questionnaire are included in the section "What the States are Doing."

The Task Force has reviewed the results of the questionnaire, other correspondence and literature received, and information obtained by telephone. A seminar on CPD was conducted by the Task Force on October 20, 1989, in conjunction with the LES Annual Meeting in Baton Rouge to inform LES membership what the Task Force had learned and to get feedback. Only 38 were in attendance at the seminar, including five of the Task Force members and the NSPE Southwestern Region Vice President. Each of the Task Force members is willing to present the information available at LES chapter meetings and to other professional organizations.

An *Opinion Survey* immediately follows this paper. Registrants of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors are strongly encouraged to complete the survey and return it to the LES office no later than January 10, 1990.

The Task Force will eventually make a recommendation to the LES Board of Direction whether or not to pursue mandatory CPD, voluntary CPD or nothing at all. If CPD is recommended, the LES Board will then work with the Task Force and other appropriate LES committees and with the Louisiana State Board of Registration to effect a proper course of action. (Price, Mar. 1989, Aug. 1989)

Positions of ASCE, NCEE, NSPE and Other Professionals

According to the Chairman of the American Society of Civil Engineers (ASCE) Committee on Continuing Professional Development, ASCE probably does not have a position on requiring CPD for engineering license renewal. (Walker 1989) The writer of this paper will be presenting a similar paper at the ASCE 1990 National Forum on Education and Continuing Development for the Civil Engineer in April 1990 in Las Vegas. It is hoped that other information

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and opinions on CPD can be obtained from a national audience. (*Price, Oct. 1989*)

The National Council of Engineering Examiners (NCEE) took a position in 1979 not to support mandatory CPD, but to encourage engineering societies to promote a strong and intensive research and public relations program on CPD. (*NCEE 1979*) There has been no change in the NCEE position paper since 1979. (*Stricklin 1989*)

The National Society of Professional Engineers (NSPE) favors giving each engineer the responsibility for professional development. NSPE does affirm the rights of each member state engineering society to support mandatory CPD and to revise the state engineering licensure law. (*NSPE 1987*)

Several other professions/groups appear to be steadily moving toward mandatory CPD. The table below reflects changes from 1979 through 1989 in the number of states that have implemented mandatory continuing education for 16 selected professions/groups, including engineering.

1989 Mandatory Continuing Education Update (After Phillips 1989)

Profession/Group	1979	1989
Architects	1	1
CPAs	28	48
Dentists	9	14
Engineers (Prof.)	1	1
Lawyers	8	33
Nurses	10	11
Nurs. Home Admin.	42	45
Optometrists	45	47
Psychologists	7	19
Pharmacists	21	42
Phys. Therapists	3	10
Physicians	20	22
Real Estate	11	33
Social Workers	10	26
LPNs	8	12
Veterinarians	19	28

What The States Are Doing

A vast majority of the responses to all the questions on the questionnaire sent to the state boards of registration and to the NSPE member state engineering societies were either "No" or "Not Applicable". The questionnaire gave no indication that there is a ground-swell movement toward CPD. The state engineering societies appear to be taking the lead in discussing and reviewing the subject more so than the state boards of registration. (*Price, Aug. 1989*)

Only Iowa has a mandatory program in place and operating through its state board of registration. (See the next section on Iowa's program). Michigan has had enacting legislation since 1980 to initiate a program of mandated CPD

for license renewal. The Michigan Board of Professional Engineers has requested the Michigan Society of Professional Engineers to draft criteria for meeting these requirements. A final draft was to be submitted to the Michigan Board by September 1989. The Montana Board of Professional Engineers has a required reporting procedure for each registrant to submit to the Board verified statements that the registrant has maintained professional competency. The practice of engineering for a minimum of 520 hours during each of the two years preceding license renewal or a combined time of 520 hours per year of practice, formal course work, home study, and/or group study is acceptable.

The Alaska Legislature is considering a statutory change to require continuing professional development for engineers. The Kentucky State Board of Registration will seek legislation in 1990 to enable a mandated CPD program to be established. The New Jersey State Board of Professional Engineers is of the opinion "that there are no standards/testing utilized within continuing education units (CEU)", and that "it is simply a 'certificate of attendance' and therefore not necessarily beneficial to licensees". Wyoming has a provision in the state law to require CPD.

The Florida Engineering Society has a voluntary Certificate of Continued Professional Development (CCPD) Program offered to its members. Applicants document three years of CPD-type activities and receive a three-year certificate after approval. CPD activities are assigned varying point values. Applicants must earn 150 points over the three-year period. Points are allocated for experience, for professional/technical organization activities, for professional activities involving teaching or paper presentations/publications, and for educational/development programs taken for academic credit, or for attending conferences, and self study programs. Only about 7.5% of the total membership participates in the CCPD program in Florida. (*Cook 1989*) The South Carolina Society of Professional Engineers has a procedure whereby members may submit a continuing education form to the state society to report CPD-type activities. Both the Georgia Society of Professional Engineers and the Louisiana Engineering Society are making feasibility studies on CPD. The Ohio Society of Professional Engineers is looking toward establishing a certificate type program.

Iowa's Mandated CPD Program For Registration Renewal

The Iowa mandated CPD program began with the 1987 state law that requires

CPD for *all* licensing agencies in the state. The law applies to all professional engineers and land surveyors, but not to EITs. Some registrants like it while others state that a registrant will maintain competence without being forced to do so.

Registrants may attend technical or management type courses, sessions at national or state professional organization meetings, and even Monday morning staff meetings if there is a job-related program presented. The Iowa State Board of Engineering Examiners accepts a proper mix of technical and management programs. There is no limit as to the number of hours a registrant may take in either category; however, the Board may hold up the registration license renewal if the registrant is too heavily involved in management courses. The Board accepts programs on how to manage an engineering firm, how to manage people, and on advanced computer techniques. Registrants must show on a registration license renewal form satisfactory completion of 15 hours for *each* year for a total of 30 hours minimum over two years to be considered for renewal.

The Board's Executive Secretary, and sometimes the Chairman of the Board, reviews each listing for acceptance. The Board may audit the registrant's records. Reviewing the renewal forms takes considerable administrative time. The Board renews one-half of the approximately 5,400 registrants each year, at an estimated annual cost of about \$12,000.

All registrants with the Board have to meet the same requirements, except exemptions are given to those in the military and those with temporary job assignments overseas. Permanent residents in other countries must meet the regular requirements unless an exemption is granted. Reciprocity with other states with mandated CPD programs is acceptable.

Iowa experienced a drop in the number of registrants after the requirement went into effect, but the decline has leveled off. Iowa lost some registrants who lived out-of-state and who felt that the CPD requirement was not worth maintaining their Iowa registration. Some of the inactive and/or retired engineers dropped their registration. (*Peters 1988*)

Conclusions

Mandatory continuing professional development is a touchy issue and requires considerable study by professional engineering organizations, by the State Board of Registration and by the State of Louisiana Legislature. Questions which need to be considered by those making the studies are:

1. What kind of continuing education courses or events will be acceptable? How many hours of course work/activities will be required each year or every two years? What should be an acceptable standard for the courses to meet? Who will have the authority to approve and monitor acceptable courses?
2. What type of enforcement policy will need to be set to monitor compliance with a required CPD program?
3. Will exemptions be granted for temporary employment in another country and for military service?
4. Will requiring CPD cause registered engineers to drop their registration? Will a category be established for non-active registrants?
5. Will there be an adverse financial effect on the operation of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors? The additional annual cost has been estimated to range from \$25,000 upward. Will the Legislature appropriate the additional funds or will the registrants have to pay the added cost?

6. Should CPD requirements be voluntary or mandatory?
7. Will specialty certification help or confound the issue even more?

A mandatory CPD program needs to be deliberated with an open mind to seek a proper position that will be beneficial to the profession and provide a safeguard to the public welfare. The Louisiana Engineering Society and the National Society of Professional Engineers should provide leadership in developing such a position, and encourage other engineering professional organizations to follow that leadership.

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LOUISIANA ENGINEERING SOCIETY OPINION SURVEY ON CONTINUING PROFESSIONAL DEVELOPMENT (CPD)

A LES Task Force was appointed to study the question of Mandatory CPD for Registered Engineers. Please answer the following questions if the purpose of CPD is to increase the competency and performance of Engineers and to encourage Engineers to maintain competency in a systematic manner.

1. Should a **Mandatory** CPD Program be Developed by State Law for License Renewal of Professional Engineers? Yes _____ No _____
2. Should a **Voluntary** CPD Program be Developed by State Law for License Renewal of Professional Engineers? Yes _____ No _____
3. Assuming a Mandatory CPD Program is Adopted as a Condition for License Renewal (such as 15 clock hours/year or 30 clock hours/2 years), should CPD Credits be given for the following:
 - a. Credit for College and University Courses taken? Yes _____ No _____
 - b. Courses which are Awarded Continuing Education Units (CEU's)? Yes _____ No _____
 - c. Those Portions of Technical Meetings, Seminars, Tutorials, Short Courses and Correspondence Courses that are Related to Engineering Practice or Management? Yes _____ No _____
 - d. Seminars Planned and Presented by Employer Firms? Yes _____ No _____
 - e. Attending Meetings of Nationally Recognized Engineering Societies such as LES, NSPE, ASCE, IEEE, ASME, etc.? Yes _____ No _____
 - f. Being a Member of the Above Organizations? Yes _____ No _____
 - g. Serving as an Elected Officer in such an Organization? Yes _____ No _____
 - h. Actually Practicing Engineering or Management of Engineers, as Confirmed through Peer Review by Fellow Professionals? Yes _____ No _____
 - i. Teaching Engineering in an ABET Accredited Program? Yes _____ No _____
 - j. Performing Research and/or Publishing Papers, Articles or Books? Yes _____ No _____
 - k. Presentations at Technical Meetings and Instruction of Continuing Education Courses? Yes _____ No _____
 - l. Reading of Engineering and Trade Journals? Yes _____ No _____
4. Is it Acceptable for Engineers to Maintain their own Record of CPD Credits Pursuant to Review by the State Board of Registration? Yes _____ No _____
5. Should the Exemption Requirement be Removed from those Engineers who Practice Engineering but are Presently not Required to be Registered? Yes _____ No _____

6. Should Exemptions to Mandatory CPD be Granted for those having Temporary Appointments Overseas, in the Military, and those who Reside Out-of-State? Yes _____ No _____
7. Considering that the Louisiana Engineering Society has Membership Representing all Engineering Disciplines and Practice Areas, is the Louisiana Engineering Society the Logical Organization to Function as the Liaison to the State Board of Registration and to Help Develop and Implement a CPD Program for Professional Engineers? Yes _____ No _____
8. Is the State Board of Registration the Logical Entity to Monitor and Enforce a Mandatory CPD Program? Yes _____ No _____
9. Noting that Additional Cost must be Inherent in such a Program, are you willing to have your Registration Fees Adjusted Accordingly (Est. \$5-\$15/year)? Yes _____ No _____

Your LES Chapter _____ Your State of Residence _____

Your Practice Area: Construction _____ Education _____ Government _____ Industry _____ Private Practice _____

PE? _____ EIT? _____ LS? _____ Instate Res.? _____ Out-of-State Res.? _____

The LES Task Force on CPD Welcomes any Additional Comments you may have.

Responses to this Opinion Survey are for Fact-Finding Purposes only.

PLEASE RETURN THIS OPINION SURVEY NO LATER THAN JANUARY 10, 1990:

FOLD ALONG DASHED LINES, STAPLE OR TAPE, AND MAIL—THANK YOU!!

Louisiana Engineering Society

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Respond to Department 123, Section E.

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Report of Disciplinary Action

On November 30, 1988 the Louisiana State Board of Registration for Professional Engineers and Land Surveyors issued a Notice of Hearing, concerning sworn charges filed against Philip C. Gee, P.E. and Warren County Engineering Services, Incorporated, both registrants of this Board. The charges were filed pursuant to Louisiana Revised Statutes 37:699 (A) (2), by two Louisiana Registered Professional Land Surveyors, who alleged possible violations of Louisiana Revised Statute 37:698 (A) (6), to-wit Board Rules. The charges concerned the multiple submission of documents to a potential client by Warren County Engineering Services, Incorporated, of which Gee is a principal. The documents allegedly misrepresented WCES's qualifications, or pertinent facts concerning its associates, for the purpose of enhancing the firm's qualifications.

The scheduled hearing was subsequently cancelled upon the decision of Gee and Warren County Engineering Services, Incorporated to enter into an agreement for a Consent Order to settle the charges. As part of the agreement, Gee and Warren County neither admitted nor denied the truth of the charges brought by the complainants, but agreed that:

1. Philip C. Gee and Warren County Engineering Services, Incorporated, would pay a fine of ONE THOUSAND AND NO/100 (\$1,000.00) DOLLARS as to the formal charge filed by the first complainant.
2. Philip C. Gee and Warren County Engineering Services, Incorporated, would pay a fine of THREE THOUSAND AND NO/100 (\$3,000.00) DOLLARS as to the formal charge filed by the second complainant.
3. A formal reprimand concerning this matter would be printed in the *Louisiana Engineer*, the official journal of the Board.
4. Any violation of the terms and conditions of the Consent Order would be grounds for the Louisiana State Board of Registration for Professional Engineers and Land Surveyors to immediately convene a hearing and/or to file a complaint with the respective court or agency having jurisdictional responsibility.

EXAMINATION SCHEDULE and APPLICATION DEADLINE DATES

EXAMINATION	SPRING		FALL	
	Application Deadline Date	Examination Date	Application Deadline Date	Examination Date
Fundamentals of Engineering Examination (8 hrs.)	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1990	Oct. 27, 1990
Principles and Practice Engineering (8 hrs.) Civil (Including Structural & Sanitary), Mechanical, Chemical, & Electrical	Jan. 15, 1990	Apr. 21, 1990	Aug. 1, 1990	Oct. 27, 1990
Agricultural, Industrial, Metallurgical, Mining & Petroleum	NOT AVAILABLE		Aug. 1, 1990	Oct. 27, 1990
Fundamentals of Land Surveying Examination (8 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 7, 1990	Oct. 27, 1990
Principles and Practices of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	May 7, 1990	Oct. 27, 1990
Laws and Procedures of Land Surveying (4 hrs.)	Oct. 15, 1989	Apr. 21, 1990	NOT AVAILABLE	

Apply at least six to eight months prior to an examination. Board approval must be given for anyone to be scheduled for an examination.

The applicant and the Board depend upon information provided by third parties in the processing of an application, therefore no assurance can be given that one will be scheduled for a specific examination.

Application Deadline date means that an application **must** be postmarked prior to or on the date specified so as to be given **consideration** for the examination. The Board may schedule an applicant for an examination later than that requested by the applicant. The Board cannot guarantee that the applicant will be scheduled for the examination initially requested.

Report of Disciplinary Action

On July 25, 1989, the Board conducted a hearing regarding charges filed by the Board alleging that Mr. Roland W. Laurent, P.E., Roland W. Laurent and Associates, Incorporated and Dawson Engineers, Incorporated, all registrants of the Board, may have been guilty of improper solicitation in order to secure engineering and/or land surveying work in violation of Louisiana Revised Statute 37:698 (A) (6), including but without limitation, LAC Title 46:LXI, 2109 (C), Rules for Professional Engineers and Land Surveyors, in connection with the alleged payment of money and/or the providing of gifts or other valuable consideration to Mr. Lloyd Wayne Ray.

After due consideration of the evidence, the testimony and credibility of the witnesses at the hearing, the hearing exhibits, and the agreements of counsel,

the Board made Findings of Fact and Conclusions of Law, including the following:

1. Wayne Ray was hired by Roland W. Laurent and Associates, Incorporated as a consultant to assist the firm in obtaining state work. He was never a bona fide employee of Dawson Engineers or of Roland W. Laurent and Associates within the meaning of Board Rule 2109 (C) 2.
2. Wayne Ray was not a bona fide established marketing agency within the meaning of Board Rule 2109 (C) (2).
3. Roland W. Laurent was aware of the monetary payments to Ray; and of an automobile and VISA card provided to Ray by Roland W. Laurent and Associates. He participated directly in those payments in the year 1984 only; Roland W. Laurent and Associates participated directly in such payments from 1984-1988.



Paul L. Landry, P.E.
Executive Secretary
Louisiana State Board of Registration for
Professional Engineers & Land Surveyors



4. Dawson Engineers participated in the indirect payment to Ray of valuable consideration, in order to secure work for either Roland W. Laurent and Associates or itself, from 1985 to 1988. Dawson Engineers, in its capacity as manager of Roland W. Laurent and Associates from 1985 to 1988, authorized and permitted continued payments for a leased automobile and a VISA card provided for Ray's use. Dawson Engineers paid for a considerable amount of social entertainment of and for Wayne Ray. Because of Dawson's managerial relationship with Roland W. Laurent and Associates, it stood to benefit from all work that was obtained for Roland W. Laurent and Associates.
5. The great majority of Dawson Engineers' and Roland W. Laurent and Associates' work between 1984 and 1985 was on projects for state and local governments.
6. Most of the parties involved in this matter were aware that Wayne Ray was a close associate of then Governor Edwin W. Edwards and most were aware that Edwin W. Edwards, while Governor, selected which engineering firms from the DOTD short list were to be awarded contracts.
7. Although both Fred Lieux, the owner of Dawson Engineers, and Roland W. Laurent had personal relationships with Edwin W. Edwards, they were aware that their additional contacts and/or relationship with Wayne Ray could inure to their benefit in obtaining state work for their respective firms.

The Board issued its Decision and Order on August 17, 1989 sustaining the charges against Dawson Engineers, Incorporated, Roland W. Laurent, P.E., P.L.S. and Roland W. Laurent & Associates, Incorporated.

Dawson Engineers was found guilty of paying, indirectly, valuable consideration in order to secure work, in violation of Louisiana Revised Statute 37:698 (A) (6). Dawson Engineers was fined \$5,000.00 and placed on probation for five years. As a condition of probation, Dawson Engineers was also ordered to pay a prorated (one-third) share of the legal fees and costs incurred by the Board for the preparation and conducting of the hear-

ing and for the court reporter, which prorated share totaled \$4,148.02.

Roland W. Laurent, P.E., P.L.S. was found guilty of paying, directly and indirectly, valuable consideration in order to secure work, all in violation of Louisiana Revised Statute 37:698 (A) (6). The registrations of Roland W. Laurent as a professional engineer and land surveyor were suspended for a period of one (1) year from the date of the Order.

Roland W. Laurent and Associates, Incorporated was found guilty of paying, directly and indirectly, valuable considerations in order to secure work, in violation of Louisiana Revised Statute 37:698 (A) (6). The registrations of Roland W. Laurent and Associates, Incorporated as a professional engineering and a professional land surveying firm were revoked, effective the date of the Order.

The Board's Decision and Order in this matter was not appealed by any parties thereto and is therefore final with all penalties effective as of August 17, 1989.

Report of Disciplinary Action

On August 8, 1989, the Louisiana State Board of Registration for Professional Engineers and Land Surveyors preferred charges and issued a Notice of Hearing, alleging that Mr. Rene A. Harris, a Louisiana registered professional engineer, and H.B. Associates, Incorporated may have been guilty of the offering and providing of engineering services without registration of the corporation as required by Louisiana Revised Statute 37:689 and in violation of Louisiana Revised Statute 37:698 (A) (2) and (5), including but without limitation LAC Title 46:LXI.501. F., Rules for Professional Engineers and Land Surveyors. These charges concerned the providing of engineering services by H.B. Associates to the St. Tammany Parish Department of Public Works on the Three Rivers Road Project.

Based upon Mr. Harris' full cooperation and his prompt actions in applying for registration of his corporation, this matter was concluded on September 14, 1989 by a signed Consent Order and the formal disciplinary hearing was cancelled. As part of the Consent Order, Mr. Harris and H.B. Associates, Incorporated admitted to the truth of the matters set forth in the Consent Order and in the Notice of Charges and Hearing, and

agreed to a five hundred dollar fine and a public reprimand. They also stated that the violation admitted to was as a result of an oversight on their part, and was not intended as a purposeful act to avoid the requirements of formal registration for engineering corporations with the Board.

Notice of Intent

In accordance with Louisiana Revised Statute 49:953, et. seq., notice is hereby given that the Louisiana State Board of Registration for Professional Engineers and Land Surveyors intends to revise Louisiana Administrative Code 46-LXI as follows:

Chapter 21 - Rules of Professional Conduct

Section 2105.C to read:

"Registrants shall undertake to perform professional engineering or land surveying services only after having been selected on the basis of competency and qualifications. Registrants shall not solicit or submit fee proposals prior to selection."

Section 2105.C becomes Section 2105.D

Section 2105.D becomes Section 2105.E

Section 2105.E becomes Section 2105.G

Interested persons may submit written comments or offer amendments to the proposed rules to the Board office at 1055 St. Charles Avenue, Suite 415, New Orleans, Louisiana 70130-3997, at any time prior to January 10, 1990. The Board proposes to consider and take action on the adoption of these rules at a meeting in its office at 11:00 a.m. on January 23, 1990.

By order of the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. **LE**

Paul L. Landry, P.E.
Executive Secretary

"A copy of "the Case for Qualification Based Selection of Professional Engineers and Land Surveyors in the State of Louisiana" may be obtained by calling or writing to the State Board of Registration for Professional Engineers and Land Surveyors (See page 3 for address and telephone number.)"

BOARD MEETING NOTICE

The Louisiana State Board of Registration for Professional Engineers and Land Surveyors will hold its regular meetings at 1055 St. Charles Avenue - Suite 415, New Orleans, La. 70130 on the following dates:

1990

Jan. 22-24	July 23-24
Mar. 26-27	Sept. 24-25
June 4-5	Nov. 12-13

CADD Alert: The Owner Wants Your Disks!

A new issue is looming on the horizon. If you have not already been faced with a demand that you deliver your plans and specifications in machine readable form, you probably will be in the near future. As the use of CADD becomes more and more wide-spread, you can expect both the frequency and the intensity of this demand to increase. You need to be prepared to respond in a reasonable way.

How are other architects and engineers responding? Some are refusing. This may not always be a viable option. Others are simply handing over their tapes or disks and hoping for the best. This is seldom a viable option. Still others are seeking protections against the new risks this practice has introduced. This is an option you might consider.

Thinking It Through

The owner sees access to your tapes or disks as an extraordinary convenience, if not a right. They can facilitate decision-making about occupancy and use of the project, and, properly indexed and cross-referenced, they can greatly enhance the accessibility of design information and data. Having paid you to prepare your documents in machine readable form, why should these benefits be withheld?

Some owners may also harbor the notion that your tapes or disks can be used as a handy short-cut to the transfer of the project to another professional in the event your relationship should somehow sour—that they may prove cost-effective in planning future extensions to the existing project—that they might even be useful in the design and construction of a similar structure on another site. There may be little interest on your client's part in being disabused of these notions. There is great interest on yours in seeing to it that this objective is met.

From your point of view, there is always a danger that, once your project documentation is out of your hands, it will be modified by someone else. CADD elevates this danger to a flash point. Design documents printed from altered tapes or disks have the appearance of

perfection, and they are likely to be assumed to be perfect. You would not want to retain the risk that these documents might actually be used to build something any more than you would want to encourage a group of preschoolers to live it up with a generous supply of matches.

Searching for a Solution

The owner needs to be warned of the risks involved, and you need to be protected against them. You are going to have to address the business, professional, and legal implications with candor. Only then can you reach a reasonable understanding as to where the risks inherent in what the owner is asking you to do appropriately belong. The place to reflect that understanding is in your agreement for professional services.

Before you even start, ask yourself if your client has the financial wherewithal to stand behind a loss caused by the misappropriation of your design. If not, go no further. If so, you are likely to need the assistance of counsel to prepare an indemnification provision appropriate to the situation at hand. The following composite sample may help to clarify some of the issues involved:

It is understood and agreed that the calculations, drawings, and specifications prepared pursuant to this Agreement, whether in hard copy or machine readable form, are instruments of professional service intended for one-time use in the construction of this project. They are and shall remain the property of the Architect/Engineer. The Owner may retain copies, including copies stored on magnetic tape or disk, for information and reference in connection with the occupancy and use of the project.

Because of the possibility that information and data delivered in machine readable form may be altered, whether inadvertently or otherwise, the Architect/Engineer reserves the right to retain the original tapes/disks and to remove from copies provided to the Owner all identification reflecting the involvement of the Architect/Engineer in their preparation. The Architect/Engineer also reserves the right to retain hard copy orig-

inals of all project documentation delivered to the Owner in machine readable form, which originals shall be referred to and shall govern in the event of any inconsistency between the two.

The Owner understands that the automated conversion of information and data from the system and format used by the Architect/Engineer to an alternate system or format cannot be accomplished without the introduction of inexactitudes, anomalies, and errors. In the event project documentation provided to the Owner in machine readable form is so converted, the Owner agrees to assume all risks associated therewith and, to the fullest extent permitted by law, to hold harmless and indemnify the Architect/Engineer from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising therefrom or in connection therewith.

The Owner recognizes that changes or modifications to the Architect/Engineer's instruments of professional service introduced by anyone other than the Architect/Engineer may result in adverse consequences which the Architect/Engineer can neither predict nor control. Therefore, and in consideration of the Architect/Engineer's agreement to deliver its instruments of professional service in machine readable form, the Owner agrees, to the fullest extent permitted by law, to hold harmless and indemnify the Architect/Engineer from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising out of or in any way connected with the modification, misinterpretation, misuse, or reuse by others of the machine readable information and data provided by the Architect/Engineer under this Agreement. The foregoing indemnification applies, without limitation, to any use of the project documentation on other projects, for additions to this project, or for completion of this project by others, excepting only such use as may be authorized, in writing, by the Architect/Engineer.

Consult your attorney. You will want to refine the language of this provision and to adapt it to the specific circum-



Consulting Engineers Section
Warren J. Wilder
CEC/L Executive Director



stances to which you wish to respond. It may be necessary to integrate it with the ownership of documents, termination, and record documents provisions of your agreement, for example. Perhaps more importantly, indemnification in any form raises legal issues which are extremely complex, and the laws of the various states with respect to their enforceability are not uniform. As a general rule, the courts look with disfavor on such provisions, and you will want to seek the advice of counsel on how best to construct the protections you need. Your purpose is to enhance the probability that they will be enforced.

(Source: Alexander & Sanders Insurance Agency, Inc., 9613 Brookline Ave., Baton Rouge, LA 70809, 504-924-1371)

**CEC/L Member Nominated as
ACEC Vice President**

Consulting Engineers Council of Louisiana, Inc. is very proud to announce that Larry A. McKee, P.E., CEO of Professional Engineering Consultants Corporation (PECC), Baton Rouge, LA, has been nominated for the office of ACEC Vice President. When elected, McKee will join only two other CEC/L members who have achieved national officership: Barney Dornblatt, New Orleans, served as CEC/US Second Vice President (1956-1957), Treasurer (1957-1958, 1958-1959), and Carter Brown, Baton Rouge, served as CEC/US Vice President (1966-1967, 1967-1968).

McKee established the CEC/L Long Range Planning Committee in early 1987 and was appointed Chairman of that committee later that year. He has served on the CEC/L Legislative Committee, Budget Committee, Nominating Committee, and was President of CEC/L in 1986-1987. He represented CEC/L at the ACEC conventions as its National Director the following year. Presently, McKee is serving a term as a member of the Louisiana Engineers Selection Board.

ACEC Tort Reform Report

CEC/Hawaii has claimed victory in obtaining a workers' compensation ex-

emption bill which limits design professionals' liability for construction safety except in the case of "negligent preparation of design plans or specifications." CEC/Metropolitan Washington has written to the District of Columbia Council in support of a bill that would cap awards for punitive damages for pain and suffering. CEC/Oregon reports a "major disappointment" when a statute of limitation bill, passed unanimously by the House, failed to be heard on the Senate side before the legislature adjourned.

CEC/Virginia is preparing to fight legislative attempts to extend Virginia's statute of limitations from 5 to 10 years, and looking into whether design professionals can be included under the same workers' comp protection enjoyed by contractors.

And in Oklahoma . . . The Oklahoma Supreme Court rendered a decision October 24th that bars lawsuits against architects and builders for defective design of a structure if an accident occurs more than ten years after substantial completion of the building. The decision stemmed from a case in 1981 when St. Paul Fire Marine Insurance Co. filed against design, architect and ceiling plaster contractors after a ceiling collapsed in a building that was over 20 years old. The Oklahoma District Court first dismissed the case based on the statute of repose. The state courts later appealed that decision, bringing it to the Supreme Court. CEC/Oklahoma and other state organizations filed briefs urging the court to uphold the statute of repose. **LE**



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Contract Documents Issued By State Attorneys General Pose Major Concerns for Design Professionals

A major focus in previous Guidelines articles has been the importance of contract document provisions between the owner and design professional (see, for example, "Professional Service Contracts," Vol. VI, No. 5, and "Contracts for Architectural and Engineering Services," Vol. VII, No. 3). Also, a number of other Guidelines articles have dealt with special aspects of contract document language, such as shop drawing review, change orders, indemnification, specifications, copyright and other related subjects.

This Guideline deals with a new development which raises significant issues affecting the role and potential liability of design professionals.

In December, 1988 the National Association of Attorneys General, composed of the chief legal officer of every state, issued its version of "Model Design and Construction Documents." This 163-page publication has aroused extensive criticism from the professional societies and from numerous practitioners who see in the NAAG documents a new and serious threat to the progress which has been made over the years in the formulation of sound, well balanced documents through the professional societies.

This Guideline reviews and discusses the philosophy behind the NAAG concept, as well as the major provisions in the documents which deviate from the usual and accepted practice of design professionals in their relations with clients.

The NAAG Philosophy

Basic to the decision by the attorneys general organization to issue the new documents is a stated belief that the project was initiated to protect taxpayers from the waste of public funds by revising the "standard" documents issued by the professional societies over the years. Those documents, it is alleged "... are not drafted with the interests of the state foremost. In a number of critical ways, public agencies may needlessly sign away their rights and prejudice their interests by using these models as a starting point for contracts."

Further, the introductory material in the NAAG publication declares: "Typically, public owners are using forms of contracts developed by organizations for architects, engineers or contractors. These forms are drafted from their viewpoints and are not necessarily in the best interest of the public owner. The drafting committee has prepared these model documents from the owner's viewpoint while judiciously balancing the interests of all parties on a construction project."

The NAAG authors recognize that their product is a "model" and not intended to represent a unanimous approach to any particular points for either the design or construction documents. While the NAAG documents are geared entirely to public projects, acceptance of some of the major departures from normal practice may impact into the private sector, as well.

With that general background, it will be incumbent on each design professional, when and if confronted with the NAAG language, in whole or in part, to be prepared to recognize the significance of the differences from accepted practices

and be prepared to educate the client that the issues discussed below pose major concerns and liability exposures for all members of the project team, including the owner.

A/E to Warrant Project Results

In a major departure from the long-established practice, the NAAG documents state that the plans and specifications "shall be adequate for the proper construction of the WORK and their intended purpose." It is clear from a related comment in the documents that the intention is to have the A/E "warrant" that the plans and specifications are adequate to build the project. And the comment recognizes that this is not the rule in a majority of jurisdictions.

The NAAG suggestion attempts to reverse a hundred years, or more, of legal interpretation of the duties of a design professional. As observed in a leading case on point: "The undertaking of an architect/engineer implies that he possesses skill and ability, including taste, sufficient to enable him to perform the required services at least ordinarily and reasonably well; and that he will exercise and apply, in a given case, his skill and ability, his judgment and taste, reasonably and without neglect. *But the undertaking does not imply or warrant a satisfactory result.*" Emphasis added. (*Combs v. Beede*, 36 A.104 (Me. 1896).

That statement of the duty of an A/E, commonly known as the "standard of care," has guided the courts over the years. As stated more recently: "Architects, doctors, engineers, attorneys and others deal in somewhat inexact sciences and are continually called upon to exercise their skill and judgment in order to anticipate and provide for random factors which are incapable of precise measurement. The indeterminable nature of these factors makes it impossible for professional service people to gauge them with complete accuracy in every instance. . . . Because of the inescapable possibility of error which inheres in these services, the law has traditionally required not perfect results but rather the exercise of that skill and judgement which can be reasonably expected from similarly situated professionals." (*City of Mounds View v. Walijarvi*, 263 N.W.2d 420 (Minn. 1978).

An equally important objection to having the A/E warrant the plans and specifications as fit for the intended purpose is that all existing professional liability insurance policies exclude from coverage

"express warranties or guarantees." If that exclusion is applied in a given case the owner may find, to his considerable surprise, that the liability insurance he may have required the A/E to carry does not provide the protection intended.

A/E to "Supervise" Construction

According to NAAG, the design professional is required to "supervise" the construction. A minority comment suggests that the wording be changed to only "determine" whether the contractor complies with the contract documents rather than "require" the contractor to comply. This change, however, if adopted, does not resolve the supervision problem.

Both the AIA and EJCDC documents eliminated that word years ago, based on the fact that the courts have interpreted "supervise" to mean control and direction of the work, a function not intended to be assumed by the A/E. Conversely, the professional society documents now clearly and specifically provide that the design professional during the construction phase will not supervise, direct or control the work of the contractor, and will not be responsible for the contractor's means, methods, techniques, sequences or procedures of construction selected by the contractor.

Also, the society documents disclaim responsibility for the contractor's safety program. NAAG, on the other hand, suggests that the A/E be bound to "strictly conform" to all applicable laws and codes, presumably including state and local labor laws. In several recent cases the courts have quoted from the AIA and EJCDC document language on point to exonerate the design professional from liability in suits by injured construction workers. (For a more detailed exposition on construction site safety concerns, see "The Liability Exposure of the Consulting Professional Engineers During Construction," published by NSPE/PEPP, 1989).

Budget Considerations

A common problem faced by owners and design professionals, particularly in the public sector, arises from the low construction bid which exceeds the available funds. The recognized method

of dealing with this problem is for the design professional and owner to mutually make changes in scope and materials to bring the project within the budgetary limits, or to increase the budget when possible. NAAG does recognize this kind of procedure in its document, but stipulates that the design professional should be required to provide the necessary redesign at no additional cost to the owner.

Why the design professional should be required to perform the additional services due to no fault on his part is not stated. The document does comment that there might be a contingency of 10% to pay for the redesign. Also lacking in the NAAG approach is the failure to include any wording in this area of concern to the effect that the owner has a duty to cooperate with the design professional to meet budgetary limitations.

Professional Liability Insurance

One of the more onerous provisions of the NAAG documents calls for design professionals to provide professional liability insurance coverage for "this project only." Professional liability insurance is traditionally written in the form of "annual practice policies." This coverage is written on a claims-made basis which generally covers all of a design firm's services on all of its projects, not a specified project. Project-specific insurance is and has been available for all projects.

While project insurance is gaining acceptance from design professionals and owners alike, it is naive to think it will automatically be the choice for all state and municipal agency projects. More important is that project insurance is not generally available to architects and engineers that do not carry coverage under a basic practice policy. A more logical approach is for NAAG to suggest (not mandate) project insurance as one alternative to consider if an agency requires professional liability coverage for its outside architects and engineers.

Ownership of Documents

It is commonly recognized that contract documents are prepared for and intended to be used for only the specific project, and are not intended for use on other projects, no matter how similar

they may be. NAAG differs with this principle by stating that the owner shall have an unlimited right to use the plans and specifications on other projects without agreement from the design professional or payment of additional fees.

The NAAG proposed clause to a very limited degree recognizes the liability exposure of the design professional by the reuse of the original plans and specifications by giving the owner the "right" to negotiate with the design professional with regard to professional liability. But as worded, the owner is under no obligation to deal with the design professional's liability concern. Instead, NAAG only provides that if the owner does not cover the liability problem the design professional may remove his name and seal from the documents, and thereafter the design professional will not be liable to the owner or third parties for the reuse of the documents, and the owner will indemnify the design professional under that procedure. NAAG adds a comment: "This may be unconstitutional in some states." Whether unconstitutional or not, the NAAG approach is uncertain, awkward and completely unnecessary. The much sounder concept is for the owner to retain the design professional to adapt the original plans and specifications for other similar type projects, thereby leaving the liability exposure in a normal posture.

Dispute Settlement

In a completely one-sided approach to dispute resolution, NAAG has structured a procedure in which the final authority to resolve disputes remains with one party to the dispute. Under the suggested procedure, the dispute would first be resolved by the chief procurement officer for construction of the public body, similar to the usual procedure of first submitting a dispute in public work to the contracting officer. Thereafter, however, an appeal from the chief procurement officer for construction would be taken to a review panel, composed of one representative from each side, and a third member appointed by the state engineer.

The result is that instead of a true three-person review panel there is one advocate for each side, with the person appointed by the state engineer having

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the controlling vote. It may be reasonably questioned whether a person responsible to the state engineer would be deemed impartial and objective in evaluating the merits of the case.

What NAAG has suggested may be intended to reflect the federal system of dispute resolution in which a similar procedure is followed, with the final decision resting with the agency board of contract appeals. If so, this is a superficial and misleading comparison. In the federal system the members of the agency boards of contract appeal are skilled and experienced professionals in contract law who enjoy independent status. The decisions of the federal agency boards of contract appeal regularly reflect that degree of independent judgement, unswayed by political influence. It is not at all unusual for boards of contract appeal to render decisions in favor of design professionals when warranted by the facts and the applicable law.

One other major departure in the dispute settlement part of the NAAG documents is a requirement that if a contractor files a claim alleging negligence by the A/E in the plans and specifications or for services during the construction phase, the design professional will consent to participate in the dispute and be bound by the decision. The design profes-

sions have long provided in their documents that in arbitration the design professional may not be joined with other parties without consent. The reason for the no-joinder position is that different legal principles may apply with regard to construction defects and professional services.

Summation

There are a number of other parts of the NAAG documents which raise problems and which merit the careful attention of design professionals when and if confronted with them. Among these are the duty of the A/E to suspend work during construction. This is a right long ago deleted from the standard documents on the basis of court decisions that if the A/E has a right to suspend work of the contractor, he has a duty to do so if he sees or should have seen a dangerous condition. The more acceptable approach is for the A/E to advise the owner, who has the right to suspend the work.

Also, NAAG proposes that the design professional be required to directly retain the services of land surveyors, materials testing services, and geotechnical services. Again, the better and accepted procedure is for the owner to contract for those kinds of supplemental services

with the advice and assistance of the design professional.

Each reader of the NAAG documents may find other concepts and wordings which raise concerns. In general, in addition to specific objections of the type noted above, the basic and fundamental issue is the NAAG concept expressed in one comment to the effect that the owner should attempt to take advantage of its superior bargaining position when negotiating with the A/E. Then the comment says that once the design is under way, the design professional is in the superior bargaining position.

This reflects the basic approach of NAAG—that the owner and design professional are adversaries who should be expected to take advantage of each other. While it may be idealistic to a degree, the better approach of professionals is that the two parties are “partners” in seeking a mutually beneficial agreement which will result in the best possible project for the benefit of both and the benefit of the public. **LE**

Published by the Office for Professional Liability Research of Victor O. Schinnerer & Company, Inc., in cooperation with the American Institute of Architects, the National Society of Professional Engineers/Professional Engineers in Private Practice, and Continental Casualty Company, one of the CNA insurance companies.

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LOUISIANA ENGINEERING SOCIETY APPLICATION FOR MEMBERSHIP

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I hereby apply for admission into the Louisiana Engineering Society 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:

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Roster of Engineering And Surveying Societies

The Inter-Society Relations Committee of the Louisiana Engineering Society is responsible for compiling a roster of chief executive officers for the other engineering and surveying societies located in the state for publication in the *Louisiana Engineer*, on an annual basis. The purposes of this effort are to identify contacts and improve communications among the entire engineering and surveying communities in Louisiana for such inter-society activities as coordination of legislative actions, technical seminars, Engineers' Week seminars, etc. If your engineering and/or surveying organization is not listed and you wish to be included in next year's roster, please make that request through the LES at P. O. Box 2683, Baton Rouge, LA 70821.

Neil H. Klock, Jr., P.E., Chairman, Inter-Society Relations Committee

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January 17, 1990

CEC/L Board of Directors Meeting
Shreveport, LA

January 27-February 3, 1990

NSPE Winter Meeting, Town & Country Hotel
San Diego, CA

February 9, 1990

LES Board of Direction Meeting
New Orleans, LA

February 21, 1990

CEC/L Board of Directors Meeting
Alexandria, LA

March 24, 1990

State MATHCOUNTS Competition

March 30-April 2, 1990

CEC/L Annual Meeting Cruise

April 18, 1990

CEC/L Board of Directors Meeting
New Orleans, LA

April 25-28, 1990

LES Awards Meeting, Lake Charles Hilton
Lake Charles, LA

April 28, 1990

LES Board of Direction Meeting
Lake Charles, LA

May 9, 1990

CEC/L Board of Directors Meeting
Lafayette, LA

June 15, 1990

LES Board of Direction Meeting
Monroe, LA

July 15-21, 1990

NSPE Annual Meeting, Omni Hotel
Norfolk, VA

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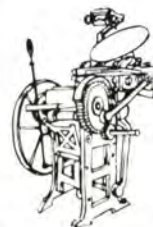
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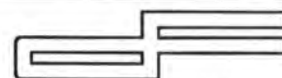
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