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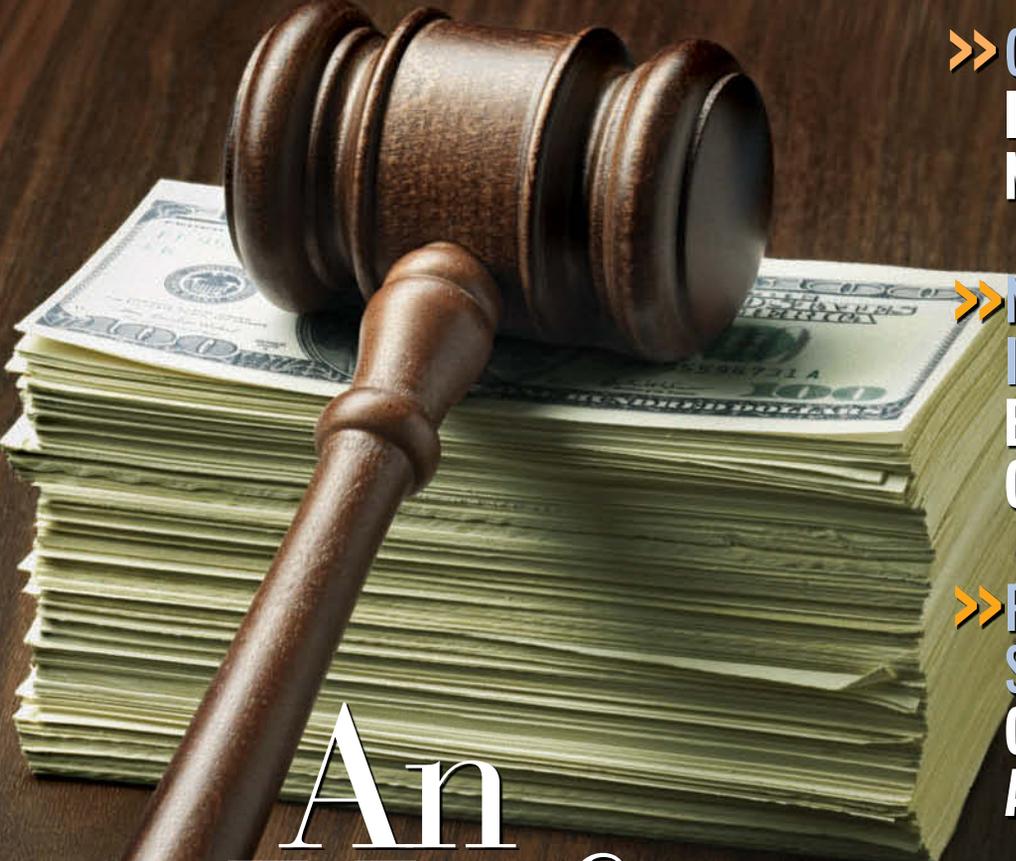
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An Unfair Duty

The Battle to Remove
Costly Duty to
Defend Clauses From
Design Professional
Contracts

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Cover Feature

AN UNFAIR DUTY

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COVER PHOTO: C.J. BURTON

From ACEC to You

ENGINEERING^{INC.}

THE OFFICIAL PUBLICATION OF THE
AMERICAN COUNCIL OF ENGINEERING COMPANIES

ACEC Education Programs Achieve Record-Breaking Participation

ACEC members are taking advantage of the Council's business education programs in record numbers. Since July 2012, more than 7,000 members have participated in nearly 150 education sessions offered as stand-alone workshops, online seminars and sessions at annual meetings—an all-time 12-month high. Each of these sessions, moderated by respected industry practitioners, focused on essential management topics, such as strategic planning, professional ethics, risk management and market outlooks. Credentialing options were also available for maintaining various professional licenses.

ACEC will continue to enhance its business education programs, which are developed “by engineers for engineers,” to help members remain ahead of the business management curve. Upcoming education opportunities include the Senior Executives Institute, Class 19, which kicks off in September, and the annual Business of Design Consulting program, Sept. 18–21 in Chicago. More information on both programs is available at www.acec.org/education.

This issue of *Engineering Inc.* highlights the Council's ongoing nationwide battle to remove costly Duty to Defend provisions from design contracts (see page 14) and reports on growing global opportunities for U.S. engineers (see page 8), along with an assessment of the professional liability insurance marketplace (see page 23).

An exciting lineup is taking shape for the upcoming 2013 Fall Conference, Oct. 27–30, in Scottsdale, Ariz., featuring former Indiana Gov. Mitch Daniels, current FHWA Administrator Victor Mendez and other top speakers (see page 38).

We look forward to seeing you.

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ACEC Endorses Alternative Transportation Funding Bills

ACEC is supporting legislative proposals in the House and Senate to boost available funding for transportation programs.

The Infrastructure Jobs and Energy Independence Act (H.R. 787), introduced by Rep. Tim Murphy (R-Pa.), would expand domestic energy production and commit additional federal revenues to transportation infrastructure. The bill opens up more of the Outer Continental Shelf and the Gulf of Mexico to oil and gas exploration and expedites lease sales. Sixty percent of the new revenues from leases, bids and royalties would be used to supplement funding for highway, bridge, transit and water resources development programs.

In the Senate, legislation will be introduced to authorize up to \$50 billion in supplemental financing for transportation infrastructure projects. Under the bill, each state could issue up to \$1 billion in new Transportation and Regional Infrastructure



Congressman Tim Murphy (R-Pa.) introduced the Infrastructure Jobs and Energy Independence Act.

TOM WILLIAMS/GETTY IMAGES



Senator John Hoeven (R-N.D.) co-sponsored TRIP bonds funding legislation.

Project (TRIP) bonds over a six-year period for major transportation construction projects across all modes of transportation, including roads, bridges, transit, rail, ports and inland waterways.

“We believe these investments made possible by TRIP bonds will generate significant economic growth, improve transportation infrastructure, and save lives through enhanced transportation safety without adding to deficit spending,” ACEC wrote in a letter with other stakeholders to the bill’s sponsors, Sens. Ron Wyden (D-Ore.) and John Hoeven (R-N.D.).

Each state would be responsible for identifying a dedicated revenue stream to repay the principal of the TRIP bonds issued. The federal government would cover the interest portion on the bonds, paid in the form of tax credits to bondholders.

Senate Advances Immigration Reform, More STEM Visas

Following weeks of debate, the Senate is poised to approve bipartisan immigration reform that will include additional visas for engineering and other STEM fields. ACEC strongly supports this provision in the legislation.

The bill increases the H-1B visa cap from 65,000 to 115,000, with an additional 25,000 visas reserved for advanced degree holders in the STEM fields. The cap has the potential to rise as high as 180,000, based on hiring needs and economic conditions. Firms that employ more than 15 percent of their workforce on H-1B visas must offer jobs to Americans first, and will be required to pay higher wages and fees in the H-1B program.

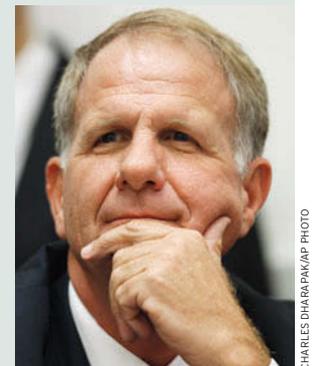
The House has not yet begun consideration of immigration reform legislation, but House Speaker John Boehner (R-Ohio) has publicly stated that he expects Congress to send a bill to the president by the end of the year. Any immigration reform plan approved by the House is expected to have a stronger focus on border security and include a similar increase in H-1B visas.

New Foreign Assistance Bill Reflects Industry Input

Congressman Ted Poe (R-Texas) is preparing to reintroduce legislation to improve the oversight and performance of U.S. foreign assistance programs. The measure reflects concerns by ACEC that better oversight is needed to ensure the effectiveness of U.S.-financed infrastructure projects in developing countries.

The Foreign Aid Transparency and Accountability Act will seek implementation of measurable goals, performance metrics, and monitoring and evaluation plans for all foreign development assistance programs. Since much of the assistance is used to fund infrastructure improvements, ACEC has worked with the congressman to ensure the bill’s provisions apply to specific projects to ensure that tax dollars are being well spent.

Similar legislation was passed unanimously in the House last year, and was approved by the Senate Foreign Relations Committee, but Congress adjourned before action could be completed on the bill.



Congressman Ted Poe (R-Texas) wants to expand oversight of U.S.-funded foreign projects.

CHARLES DHARAPAK/AP PHOTO



DEAN BATTAGLIA/PR NEWSFOTO/AP

House Clears ACEC-Backed Keystone XL Pipeline Bill

The House passed legislation in late May to approve construction of the Keystone XL pipeline.

The Northern Route Approval Act eliminates the need for a presidential permit for the northern portion of the Keystone XL pipeline, which will extend from the Canadian border to Steele City, Neb. Investment in the pipeline would create new infrastructure opportunities and result in new engineering jobs.

The Council was active in generating support for the legislation in advance of the House vote, including a lobbying effort during ACEC's Annual Convention in Washington. ACEC President Dave Raymond also sent a letter to each House member urging their support.

Action in the Senate is uncertain, pending a final administration decision on the project.

ISSUES ON THE MOVE

WHAT'S NEXT

Transportation Funding Alternatives

To be considered in MAP-21 reauthorization legislation in 2014

Immigration Reform

House action possible in July

WRDA

House action in the summer

Foreign Assistance Reforms

House action in July

Senate Passes ACEC-Supported WRDA Legislation

The Senate cleared the Water Resources Development Act of 2013 (WRDA) by a large bipartisan margin in May.

The measure authorizes new U.S. Army Corps of Engineers water projects to address critical navigation, flood control, water supply and hydropower needs.

Several ACEC priorities are included in the bill, including accelerated project delivery, innovative financing alternatives and a levee safety program. In response to ACEC's concerns, the bill requires the Corps to examine and report on problems facing communities in securing engineering services for levee inspection and certification work.

The act also proposes a pilot program for the Water Infrastructure Finance and Innovation Act, authorizing \$100 million annually over five years for low-interest loans on major water infrastructure projects.

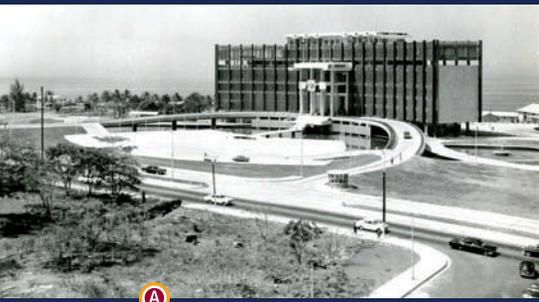
House action on WRDA is expected before the end of July.



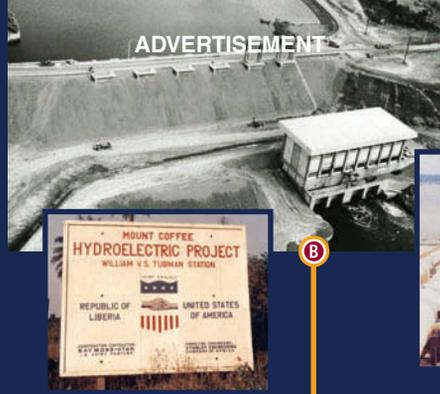
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A



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Stanley Consultants' Rich History of Global Service

Stanley Consultants is a global engineering firm recognized for its commitment to client service and a passion to make a difference. With a focus on energy, water, transportation, and the environment, the firm brings knowledge of 103 countries served, a century of experience, and multi-disciplinary capabilities to serve private and public clients.

2013 marks Stanley Consultants' 100th anniversary. The firm was founded in 1913 in Muscatine, Iowa, where it has maintained its corporate headquarters. Throughout the '30s, the firm designed and managed construction of nearly 33,000 miles of transmission and distribution lines for dozens of electric cooperatives in the Midwest.

In 1956, the firm entered the international market to design a diesel power plant expansion for an iron mining company in Liberia. Max Stanley, president of the firm at the time, felt strongly that international work provided a tangible opportunity to improve the quality of life throughout the world. By the late '60s, the company's international portfolio included design of Liberia's executive mansion, and the Mt. Coffee hydroelectric plant, as well as the Port of Antigua.

As the firm grew, so did the services provided to domestic and international

clients, including architecture, planning, environmental, and construction services.

In the '70s, the company was instrumental in bringing electricity to rural areas of Peru and the Philippines, and expanding potable water to Jordan and Southern Africa. Design of a diesel generating plant on the island of Antigua provided electricity as well as steam for water desalination.

In 1991, the firm was chosen over 1,300 other firms to design two airbases in Kuwait following the first Gulf War. Stanley Consultants assisted in the United Nation's resettlement efforts of 750,000 Kurds forced from their villages during the Persian Gulf War. In 2004, the firm was part of a team selected by the U.S. Army Corps of Engineers for a \$1.2 billion construction management project to reconstruct war-torn Iraq.

As the world market strengthened in the 1990s and 2000s the company's footprint continued to grow. Over the past 100 years the firm has worked in every state, in 103 countries, and has had offices throughout the United States, Latin America, Caribbean, Middle East, Africa, Asia, and the Pacific.

Throughout its history, Stanley Consultants' success has been a result of its employee expertise, flexibility,

and willingness to go where our clients need us. For nearly 60 years, Stanley Consultants has served international clients, providing comprehensive services to federal agencies, foreign governments and international financial institutions to meet their energy, water, transportation, and building needs.

From the largest desalination plant in Africa to the world's largest chiller plant in Qatar, Max Stanley's vision of creating a better world through engineering has been realized. Jamaica's North Coast Highway has provided such an economic stimulus to the country that the government considers it a national treasure.

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ENR RANKINGS

#72 Top 500 Design Firms Design

#137 Top 150 Global Design Firms

#129 Top 200 International Design Firms

#48 Top 50 Designers International Markets



(E)



(H)



(F)



(G)

(A) Liberia: The eight-story Executive Mansion in Monrovia, Liberia provided an elegant, professional environment for presidential and governmental executive quarters and offices.

(B) Mt. Coffee: To supply power for Liberia a hydroelectric generating facility was designed featuring a 75-foot high dam with a potential 108 MW generating capacity.

(C) Malaysia: The Bintulu cargo port and harbor project turned around the

economic future of the Malaysian port by opening a resource-rich market.

(D) Jordan: The 41 kilometer pipeline was designed to handle 45 million cubic meters of potable water per year to support the rapidly developing area of Amman, Jordan.

(E) Jamaica: Design and construction of the North Coast Highway has forever changed the face of transportation and the economy in Jamaica.

(F) Iraq: Master planning the reconstruction of Iraq has been called the single largest reconstruction program in the history of the world.

(G) Algeria: The \$275 million Hamma Seawater Desalination plant in Algeria produces 53 million gallons of potable water per day.

(H) Qatar: Design and construction of Qatar Cool, the world's largest chiller plant, was completed in just 18 months.



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International Marketplace: A Wealth of Opportunity, Challenges

In reality, there is no one global engineering market. Instead, there are 196 distinct national markets, each with unique borders, language, culture, laws, regulations, currency and ways of doing business.

“American firms often look at California as if it’s another country, but there’s no comparison when you talk about doing business in California compared to doing business in Colombia or Chad,” says Geoff French, president of the International Federation of Consulting Engineers.

“Every country is different, even within a region, and they’re different for different reasons.”

That challenge hasn’t discouraged U.S. engineering firms from seeking overseas opportunities. American firms have dramatically expanded their international business in recent years. From 2002 to 2012, the *ENR* Top 500 Design Firms increased international revenue from \$9.1 billion to \$28.4 billion, a 200-plus percent increase. In 2012, international revenue accounted for 31.5 percent of the total revenue of the Top

500 firms, up 18.2 percent from 2002.

Top Markets

Total revenue for the global engineering consultancy market was approximately \$550 billion in 2012, according to a study by Andrew Goss, professor of marketing and international business at Cleveland State University. Goss estimates that the U.S. domestic market accounted for about \$200 billion, or 36 percent, of the total global market.

“In the past, it was possible to argue that North America accounts for roughly one-third, the European Union for another third and all other regions for the remaining one-third,” says Goss. But rapid growth in the “other regions” has skewed the percentages, particularly at the expense of more mature European markets.

Currently, the Top 500 firms are most active in Asia and Australia (29 percent of international revenues), Canada (27 percent), Europe (19 percent), the Middle East (11 percent), Latin America and the Caribbean (8 percent) and Africa (6 percent).

Countries in each of these regions—with the possible exception of Europe—offer significant market opportunities as well as challenges for international engineering firms. The recent ACEC Annual Convention featured a program for U.S. engineering firm leaders and Arab ambassadors to discuss the infrastructure situation in the Middle East and North Africa.

At least two perceived major markets—China and India—are not as high on the list of bountiful opportunities as some might think. China recently announced its 2013 GNP growth would “slow” to 8 percent. India’s economy is projected to grow at better than 5 percent annually. But both countries have relatively closed and otherwise “unfriendly” markets.

“China is not really on our list,” says Paul Gardiner, president of Cardno USA, Inc. “It’s a risky place to do business and a difficult place to make money.”

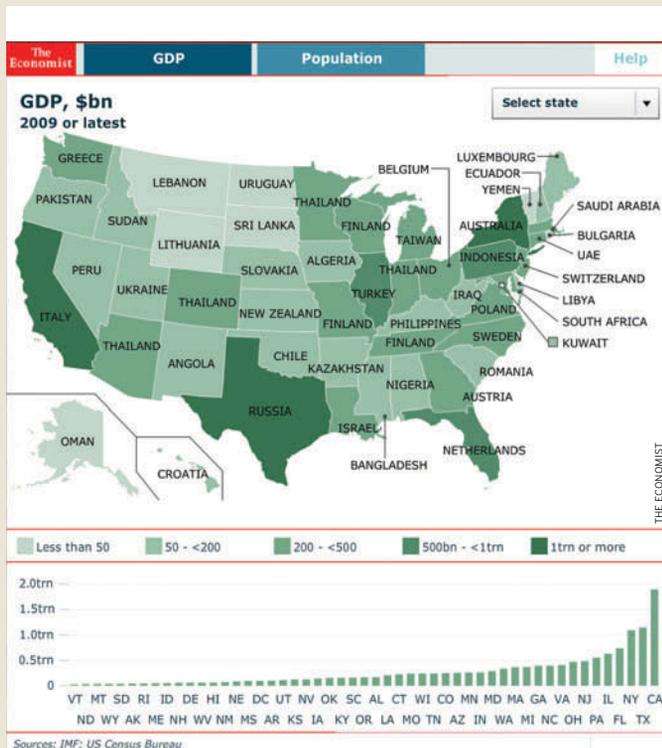
In other places, firms seem to have better options.

Qatar has a population of less than 2 million. But it will invest \$250 billion in infrastructure by 2030, according to the Royal Bank of Scotland.

Brazil has been pegged as among the world’s fastest-growing economies over the coming decades, with more than \$1 trillion in planned infrastructure investment. But not all roads are paved with gold. Mick Morrissey, principal of Morrissey Goodale, says, “Engineering firms can face significant problems repatriating their profits.” He adds, “It’s almost a barter system.”

Among Sub-Saharan African nations, GDP growth in 2011 averaged a robust 4.9 percent, though there were significant disparities between individual economies. Financial services firm Citigroup projects that Nigeria will have the

Size Comparison of International Markets to U.S. State Markets



The U.S. market is so large that even the smallest states have economies that match those of some smaller nations.

Source: *The Economist*

A rendering of BBVA Bancomer Tower in Mexico City by Primera Engineers



decline in total population, which means the majority, if not all, of the increase will take place in Asia and Africa.

The U.N. estimates that Africa's urban population will triple by 2050 to 1.2 billion and Asia's will almost double to 3.3 billion. India alone will add nearly 500 million urban residents by 2050.

This urban explosion poses significant challenges for these nations but significant opportunities for engineering firms, particularly those that specialize in transportation, water and wastewater, and energy infrastructure.

Natural resource extraction will also continue to be a major global market for engineering firms, with new technologies opening up huge energy reserves all over the world.

"From an extractive industry perspective, Africa will be the breadbox," says Mike Henderson, senior vice president of California-based Tetra Tech's global mining practice. "But we also see big opportunities in Canada, Australia and South America. We're very bullish on Colombia," he says.

Among U.S. firms, Tetra Tech has managed arguably the most dramatic growth in its international business. Between 2002 and 2012, the firm increased its annual international revenues from \$4 million to \$833 million. Tetra Tech is now active in 135 countries.

Tetra Tech's growth is fueled by its expertise in water—*ENR* ranks the company as the industry's top water firm. "Scarcity of water and sanitation access in Africa, Asia and the Middle East are going to be market drivers for U.S.

highest economic growth rate of any nation from 2010 to 2050. In contrast, Zimbabwe announced earlier this year that it had only \$217 in its national treasury.

Top Sectors

Population growth—in particular, urban growth—will be the prime market driver in many of these nations. According to U.N. esti-

mates, global population will increase from approximately 7 billion today to more than 9 billion by 2050. Over that period, North and South America and Europe will

Market Watch

firms overseas,” says Carol Bell, Tetra Tech’s international project development director and co-chair of ACEC’s International Committee.

Continued population growth and urbanization remains a strong international market driver for transportation infrastructure. Additionally, many nations are investing in significant port expansions in anticipation of increased

commerce from the widening of the Panama Canal.

U.S. government agencies, such as the U.S. Army Corps of Engineers and the U.S. Agency for International Development, and multilateral banks, such as the World Bank and the Inter-American Development Bank, will continue to be good sources of international work. Tetra Tech earns about 16 percent of its

total revenues working with these organizations on water, transportation and energy projects.

“The current federal budget uncertainty has caused some problems,” says Bell, “but this has historically been a cyclical market.” U.S. funding of international work has become more of a contributor than a driver, with bilateral banks and financial investors

becoming more significant. Public-private partnerships are becoming an integral part of every country’s planning.

Risk Still Exists

While opportunities abound in the international marketplace, so does risk. “In many countries, contract terms don’t tend to be friendly to the consultant,” says ACEC Chairman Gregs Thomopu-



Tetra Tech performed geotechnical mapping for the Twin Tunnels project in Vancouver, Canada, which conveys raw water under pressure from the Capilano Reservoir to the Seymour Filtration Plant and returns treated water for distribution through two 7.2-kilometer tunnels.

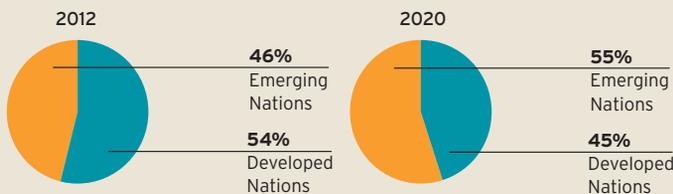
Growth in the Global Construction Market



The global construction market will grow by 67 percent by 2020, with more than half of that growth coming in China, India and the United States.

Source: Global Construction 2020

Share of Global Construction Market



Emerging nations will become increasingly important in the global market, led by growth in China, India, Indonesia and Russia.

Source: Global Construction 2020

los, and chairman of Stanley Consultants, Inc., in Muscatine, Iowa. “Clients ask us to take on more and more risk.”

When Chicago’s Primera Engineers, Inc., started work on a project in Mexico City, for example, the client required letters of credit and surety bonds. “They treated us more like a contractor than a consultant,” says Lourdes Gonzalez, Primera’s director of sustainability.

In addition, many of the company documents, such as the articles of incorporation, had to be translated into Spanish. “There can be a lot of additional costs when you start working overseas,” Gonzalez says. “On a small job, the fees might eat all of your profit.”

Profits can also be squeezed by currency rate fluctuations and extended payment schedules. “Domestically,

we’re pretty comfortable with a 90-day cash flow turnaround,” says Morrissey. “Overseas, collecting money is more like a mystery movie.”

Political stability in the region is another concern. Though his company is active in many African countries, Tetra Tech’s Henderson says, “We’re always cautious, watching the political situation and seeing where it’s going.”

Corruption is endemic in a lot of developing countries. In Brazil, a recent survey found that nearly three-quarters of domestic firms viewed corruption as a major economic detractor in the country.

Competition with other international firms is another huge risk, because foreign firms don’t always play by the same rules. “You’re not going

to win on Qualifications-Based Selection when you go overseas,” says Morrissey. “We’re so used to the rule of law here. They think we’re soft.” As a result, U.S. firms’ perspectives on project quality, performance, innovation and long-term sustainability become a weakness in competitions that hinge solely on price.

Manish Khotari, president/CEO of Sheladia Associates, Inc., in Rockville, Md., and ACEC vice chairman, notes the increase in competition in markets that used to have only a few players.

Khotari’s firm does a lot of work in Africa, and he says, “On some projects, out of five bidders, three or four will be Chinese.”

Top Strategies

While every country—even every agency or entity within countries—is unique, U.S. firms follow several rules for success in the international marketplace. The ACEC International Committee is a valuable resource to learn about international markets, a country’s unique issues, available U.S. agency support, funding sources, future opportunities and other firms’ experience. The Committee’s programs also offer opportunities to meet with U.S. and foreign government representatives and with engineering associations and firms from other countries.

Perhaps the best way to enter a new country is through a North American client or multilateral bank. In 2008, a Chicago architecture firm brought Primera into its Mexico City project as the LEED consultant. The firm got a foothold in the country

and proceeded to win other projects.

“We’re definitely looking to expand our work in Mexico,” says Primera CEO and President Pedro Cevallos. “Their growth rate is double or triple that in the United States.”

Primera’s experience highlights another key strategy: Have a niche. The firm is a leader in sustainability, having worked on more than 80 LEED projects. “No firm in Mexico can match that,” says Gonzalez.

When working in developing countries, established cost structures often put U.S. firms at a competitive disadvantage, but Khotari says a positive reputation can offset that.

“People in other countries hold U.S. firms in high regard, not only for our technical know-how but for our honesty and integrity,” he says. “Integrity is the driving factor. They believe we are not susceptible to corruption and are committed to doing what we sign up to do.”

U.S. firms need to respect these nations, says Thomopoulos. “Foremost, you must be respectful of their culture when you go to work there,” he says. “You have to understand the country.”

To speed up the cultural learning curve, Tetra Tech always looks to partner with a local firm when it enters a new market. “Local partners can be invaluable on the local situation, cultural barriers, red tape and relationships with clients,” says Bell.

Gerry Donohue is ACEC’s senior communications writer. He can be reached at gdonohue@acec.org.



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BBVA Bancomer Tower, Rendering by LegoRogers (Legorreta + Legorreta and Rogers, Stirk, Harbour + Partners)

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Primera is expanding its footprint internationally, serving as the LEED consultant and commissioning agent for BBVA Bancomer's new 32-story Operations Center as well as its 50-story headquarters building [pictured above] in Mexico City. The projects are seeking LEED Silver and Gold certifications, respectively.

Primera Engineers, Ltd. (Primera) is a full-service engineering design and consulting firm dedicated to sustainable design and the pursuit of excellence using the latest technologies. Primera offers a wide range of professional services in the disciplines of transportation, mechanical, electrical, plumbing (M/E/P), civil engineering, power transmission and distribution, commissioning, architecture and construction management. Since Primera's inception in 1987, we have built an exceptional record of successful single and multi-discipline projects. Primera's design team is comprised of dedicated professionals including Professional Engineers, Structural Engineers, Licensed Architects, LEED Accredited Professionals, Certified Energy Managers, and Certified Energy Procurement Professionals. For more information, visit:

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Diversity Brings Opportunities TO INTERNATIONAL MARKETS

By Lourdes M. González, AIA, LEED AP BD + C, ND | Director of Sustainability, Primera Engineers, Ltd.

Primera Engineers, Ltd. (Primera) was founded more than 25 years ago by a diverse ownership team. This foundation, and Primera's commitment to diversity, continues today with a staff of more than 180 technical experts specializing in sustainability, commissioning, transportation, mechanical, electrical, plumbing (M/E/P), civil engineering, power delivery, architecture and construction management. One of the earliest challenges that Primera faced was bringing together this diverse set of experts and services for the success of the business while achieving the highest level of client satisfaction. While some may have seen it as an obstacle, it was embraced by Primera as an opportunity to gain a better understanding of its people, the marketplace and countless opportunities to learn and grow.

The openness to look at differences as part of the whole led to many early successes for Primera. These differences allowed the firm to expand locally by exploring a variety of opportunities and options, including different markets and new service offerings. This willingness to try new things later challenged Primera to respond to a request for services well outside its Chicago headquarters in support of an existing client. The new challenge was to expand its offerings internationally and work in Mexico.

Being open to new markets, new cultures, and new countries opens the door to leveraging existing strengths to explore these opportunities.

Primera was well positioned to work in Mexico. The firm's diverse offerings include bilingual staff members with a cultural understanding and knowledge of the country. This allowed Primera to bring U.S.-based expertise for LEED® consulting services to the client. The ability to tap into the firm's existing staff for its first project outside the United States made

it an easier transition. The challenges of understanding international employment laws could complicate the initial venture into international work. Now that Primera has a solid understanding of the market and potential opportunities, they can be more comfortable in tackling these types of obstacles.

The Challenges of Working in International Markets

There are some universal truths when working for any large corporation, internationally based or not. Their focus is to be profitable and position themselves in their market to gain the greatest advantage. In that respect, international companies have the same focus as many U.S. companies when it comes to their attention to sustainability. Not only is operating sustainably the right thing to do, but in many industries it is very important for market position. International corporations also understand and center on the benefits of sustainability for both the employees and the environment.

This commitment to sustainability leads many corporations to seek third-party certification such as LEED, administered in part by the U.S. Green Building Council (USGBC), because of its market acceptance and prestige. International companies in particular look to the global recognition of the USGBC's LEED certification program to help explain sustainability in markets which are less sophisticated or developed in green building and design. In Mexico specifically, many of the existing environmental policies and programs are already based on U.S. environmental laws. This is part of the broad reaching effects of NAFTA and physical proximity. These similarities ease the transition from country to country.

However, while many aspects of the environmental policy in Mexico are similar to the United States, there are just as many areas with significant differences that can prove challenging when expanding internationally. Mexico has very stringent federal environmental laws in place, focused in particular on water conservation, access to alternate transportation and required use of renewable technologies. Navigating and understanding these laws is critical to the success of these projects.

As is the case with several emerging markets, there is a great deal of opportunity for continued work in Mexico. The commitment of the new Mexican President, Enrique Peña Nieto, to environmental infrastructure improvements are part of a soon-to-be-released aggressive six-year plan outlining an estimated 500 major projects. This master plan will detail projects to design and construct new and improve roads, rails, airports and ports in order to increase the coverage, quality, and competitiveness of Mexico's infrastructure.

So with the tremendous opportunities that await, what are some of the other challenges that face U.S. companies seeking to expand their reach beyond the borders? Understand that local regulations can have significant consequences on your project. There are, however, distinct advantages in that many large-scale projects follow the same International Standards (AASHTO, ASHRAE, ICC, NFPA etc.) that are utilized in the United States. However, that is offset by the fact that many of the high-end finish materials are shipped from the U.S. or even Europe, and manufacturing in Mexico is focused in the north, making it difficult to achieve LEED credits for sourcing local materials. Regional product options can be limited, but raw materials can be very high quality and there is a robust and highly-trained workforce available. In addition, decision making processes can be more bureaucratic which can delay the progress in design and construction, but understanding that some of this is based on cultural differences makes the process easier to maneuver.

There are growth opportunities available all over the globe. As Primera has proven, being open to new markets, new cultures, and new countries opens the door to leveraging existing strengths to explore these opportunities. Primera's diverse beginnings and commitment to its people and the markets they service have set them up for success inside the United States and now, internationally as well. Having a diverse staff, thorough understanding of these new markets and adapting to the global marketplace is critical to the success of any business looking to expand internationally.



An Unfair Duty

By Samuel Greengard

ACEC is waging and winning a national battle to remove unjust Duty to Defend obligations from indemnification clauses in design professional contracts

No engineering project is without risk. Somewhere between the goal of designing the best bridge, building or water treatment facility and running a profitable business lurks the ever-present possibility of litigation. A legitimate disagreement can occur, a company can make a mistake, or a firm or government entity—or a member of the public—can file a lawsuit that forces the firm to defend itself and its work. “A lot of risks exist and they’re not necessarily related to the quality of the work performed,” says John Moossazadeh, a senior vice president at Kleinfelder in San Diego. >>



Engineering firms often take jobs that knowingly expose the firm to legal risk. But how much risk is too much?

That's a question that more and more engineering and design firms are asking when confronted with contracts that contain controversial "Duty to Defend" language.

A contractual Duty to Defend provides that the engineering firm will pay for attorney's fees and costs incurred in a client's defense of a claim. Depending on the contract language and the governing jurisdiction, this duty may be immediate from the time the claim is made, and may exist regardless of whether the engineer is found to be negligent. Although basic indemnification and defense clauses are common, and they typically assign risk to the negligent party, a growing number of developers and agencies request—and, in some cases, demand—that the consultant or firm in charge of the project defend *any* suit or other legal action brought against the developer or owner, and sometimes even irrespective of whether the claim is related to the engineer's services.

Duty to Defend provisions are therefore criticized because a consultant or engineer who signs such an agreement could be legally required to bear the cost of defending against any project-related claim, even when the claim has nothing to do with the services performed by the firm, and there's zero evidence of negligence. "It forces engineers to take responsibility for far more than the work they're being paid to do and what their insurance covers," explains P. Douglas Folk, principal at Folk & Associates in Phoenix.

Fighting Back

Recent court rulings have put A/E/C firms at greater risk, extending the express or implied defense obligations contained in indemnity clauses. Many firms, meanwhile, say they've had enough.

Because of concerns about the scope of Duty to Defend language in new project contracts, engineering and design firms have attempted to strike

such provisions from deals or write in protections. Firms that cannot negotiate such protection or reduce their overall liability have been forced to turn down work. The industry, meanwhile, has attempted to enact laws that offer a more balanced assumption of risk for engineers and their clients. "Duty to Defend is a very serious obligation with potentially disastrous consequences. Unless it is carefully limited, it can be fundamentally unfair," says Paul Meyer, executive director of ACEC/California.

Courting Disaster

Over the years, indemnity clauses have emerged as a standard fixture in engineering and construction contracts. The typical goal is to assign responsibility for third-party claims to the party that is responsible for negligent acts or omissions underlying the claims. Most of these contracts contain language that states that the person or firm in charge of the project will indemnify the other party for damages to the extent arising out of or relating to that person's or firm's negligence.

However, these indemnity provisions often include in their scope an express or implied Duty to Defend obligation. This Duty to Defend may force the design professional to retain or pay for attorneys to defend the client against claims, even if the claims are merely alleged to arise out of services performed by the design professional and even if it is determined that the services in question met the professional standard of care—in other words, even if the design professional was not negligent.

Most professional liability insurance (PLI) policies do not cover the cost of legal fees paid to defend a client. Moreover, PLI typically only covers the firm that obtains the policy and only applies to damages resulting from negligence. "Anything more is barred from coverage," explains J. Kent Holland Jr., an attorney who heads ConstructionRisk Counsel, a Tysons Corner, Va.-based consulting firm.

It's no small problem.

"Duty to Defend extends the defense obligation and the costs associated with the lawsuit without consideration for the party that is actually negligent," says Karen Erger, vice president and director of practice risk management at Lockton Companies in Kansas City, Mo., a provider of insurance and risk management services for the design, engineering and construction industries. "For those who agree to a Duty to Defend clause, there is a huge unfunded liability and a significant level of financial risk."

A project that represents \$25,000 in revenues for a firm can end up costing the same firm more than \$1 million in legal defense fees. Given the litigious culture we live in, those claims can come from just about anywhere—an unhappy homeowners association member, a citizens' rights group that takes issue with the project or believes that some aspect of the work was improperly done, etc.

"There is no way to predict who might file a lawsuit for a reason that has nothing to do with quality of the services or, if it is a legitimate claim, whether it has anything to do with negligence on the part of the firm that winds up having to defend the suit," Holland says.

Over the years, courts have stripped away protections once afforded to A/E/C firms. In a benchmark 2008 California case, *Crawford v. Weather Shield*, the state's Supreme Court ruled that a contractual indemnity clause compelled a subcontractor to pay legal fees of the general contractor as part of a third-party suit, even though the subcontractor was not found negligent. The net effect: A subcontractor must defend a builder regardless of whether the subcontractor is required to indemnify the builder or found at fault in any way. Translation: Duty to Defend is implied in a contract unless otherwise stated.

More recent court rulings have underscored such risks. In 2010, a California appellate court ruled in *UDC-Universal Development v. CH2M HILL* that the engineering firm had a duty to pay the defense expenses of its client, UDC-Universal Development, from the commencement of the claim, even though CH2M HILL was eventually found not negligent.



A project that represents \$25,000 in revenues for a firm can end up costing the same firm more than \$1 million in legal defense fees.



"Duty to Defend extends the defense obligation and the costs associated with the lawsuit without consideration for the party that is actually negligent."

KAREN ERGER
LOCKTON COMPANIES

The court's decision was based on the conclusion that the engineer's work was "implicated" by the plaintiff homeowners association's claims, and that the professional services agreement between both parties provided that the engineer contractually agreed to "defend any suit, action or demand brought against Developer or Owner on any claim or demand covered herein," Holland explains.

In recent years, clients and agencies seeking engineering services have put pressure on competing firms to sign Duty to Defend clauses. A tougher business climate made it easier for clients to dictate terms to smaller companies. "There are those who say, 'If you don't sign the agreement with a Duty to Defend clause, we will find another company willing to accept the terms,'" Erger says. As a result, "firms—especially smaller businesses—are forced into an extremely tough decision. They either have to risk losing the work or taking on the risk and defending any third-party claims."

We Will Not Rest

ACEC, along with other industry advocates, continues to push for laws and policies that would reduce the liability burden that Duty to Defend language places on engineering and design firms.

"There's a growing focus on taking the issue to state legislatures and amending laws," Meyer says. In California, S.B. 972, which became law in September 2010, amended California Civil Code section 2782.8 to limit the enforcement of indemnification clauses on design professionals working for local public agencies. Under the law, which was backed by ACEC, indemnity and Duty to Defend obligations in contracts between design professionals and public agencies are limited to those situations in which the design professional is negligent.

Last year in Washington state, Gov. Chris Gregoire signed H.B. 1559, which limits the enforceability of indemnification agreements involving design professionals by more expressly defining what is and is not



"The revised statute should reduce the number of uninsurable risks created by indemnity provisions in professional services agreements."

BILL GARRITY
ACEC/WASHINGTON

protected under the law.

The revised statute expressly applies to contracts for "architectural, landscape architectural, engineering and land surveying services." It also limits a firm's Duty to Defend and voids provisions that require design professionals to defend a client for claims that arise out of client or third-party negligence. The previous statute applied to "construction" contracts but it was unclear whether that definition included contracts with design professionals, such as those between owners and architects.

Bill Garrity, president and CEO of ACEC/Washington, says the change represents an important and welcome shift in policy. The contractor's liability for indemnification and defense is now limited

to the extent of the contractor's negligence, but only if it is expressly stated in the contract. "The revised statute should reduce the number of uninsurable risks created by indemnity provisions in professional services agreements," he says, adding, "This should allow design professionals and their clients to better allocate risk."

With ACEC taking the lead, other states—Colorado, Florida, Nevada, Oregon and Texas, among them—also have taken steps to reform existing indemnity laws. Engineers in Arizona are also advocating for indemnity changes in public works projects.

ACEC/Arizona sponsored S.B. 1231, which passed the Arizona Senate and awaits passage in the House. It, too, changes the way indemnities are handled—so that design professionals and contractors are liable only for their own errors or omissions.

But legislative reform is not the only option.

A/E/C firms can take sev-

eral steps during contract negotiations to reduce the risk associated with indemnification. Kleinfelder often asks clients to remove risky Duty to Defend clauses—and in some cases, the firm has turned down work from clients that refuse to budge on the issue.

Moossazadeh says his firm will sometimes insert language into contracts that says Kleinfelder is not responsible for any Duty to Defend specified in the contract absent "evidence of negligent performance by our firm."

Beyond specific contract language, Erger says engineers would benefit by better educating clients about indemnity. "The idea that anything bad that happens should be paid by the design or engineering firm is completely unreasonable and not conducive to a healthy and robust industry," she says.

Folk says that firms should either use an ACEC standard contract or have an attorney review a contract to limit the possibility of creating inadvertent liability. He adds that those who sign away their rights should understand that they have assumed an uninsurable risk.

Despite the industry's best efforts, it's unlikely that overly broad indemnification and defense demands will disappear any-

time soon. That's why "when negotiating indemnification clauses, it is important to carefully craft the clause so that the obligation to indemnify is limited to the extent of damages caused by the indemnitor's negligence," Holland says. The clause should also at a minimum specify that any obligation to defend commences only after the design professional is found negligent. "It is also important to make the clause applicable only to damages arising out of third-party claims against the indemnitee." Holland goes on to say, "Those that sign away their rights are putting their firm and their livelihood on the line." ■



"Duty to Defend is a very serious obligation with potentially disastrous consequences. Unless it is carefully limited, it can be fundamentally unfair."

PAUL MEYER
ACEC/CALIFORNIA

Samuel Greengard is a business and technology writer based in West Linn, Ore.

2013-2014
ACEC
Executive
Committee

Discusses
**Business
Growth**

By Christopher Brandon

A

must be confronted...

As our industry emerges from the constraints of a struggling economy, several challenges



Budget Challenges

With many engineering firms relying on federal appropriations for transportation, water infrastructure and building projects, cuts in federal spending, including sequestration, are already having a significant impact on the industry, says **Michael Matthews**, ACEC vice chairman and president and CEO of Virginia-based **H&A Architects & Engineers**.

The sequester began March 1 when congressional Republicans and Democrats failed to reach an agreement on how to reduce the deficit. Across-the-board spending cuts of approximately \$85 billion took effect, split evenly between defense and nondefense spending. Unless Congress and the White House can reach a compromise, additional cuts are expected through 2021.

Matthews says many firms have already felt the effects of reduced Department of Defense spending. "Additional cuts," he says, "could have a negative impact for the coming year. This result would be seen



Ralph Christie

as detrimental not only to our industry, but to our nation's infrastructure."

Water, energy and telecommunications projects also have been affected by sequestration, and how these areas will be prioritized is creating what ACEC Vice Chairman **Ralph Christie** calls a "cloud of uncertainty." Christie, chairman of Colorado-based **Merrick & Company**, says the government needs to clarify the priority of programs with federal funding. "Until the government specifically identifies the programs that are a go, deferred or canceled, it is a challenge for firms to evaluate the required staffing



Michael Matthews

needs," he says. "I've been in this business for 40 years, and I've never seen this lack of clarity."

As federal funding continues to be uncertain, Executive Committee members emphasized the importance of alternative financing mechanisms for infrastructure.

ACEC Vice Chairman **Clint Robinson** says firms should continue to pursue options such as public-private partnerships. "ACEC is a great resource for our Member Firms on the opportunities available in the private investment market," says Robinson, associate vice president of **Black & Veatch** in Overland Park, Kan.



Clint Robinson

Trend Toward Insourcing

Compounding the challenge of reduced government spending, many government agencies are also performing more work in-house, reducing opportunities for many private-sector engineering firms. The rise of "insourcing" is a concern to all Member Firms, says ACEC Vice Chairman **William Stout**. Three things, according to Stout, have led to an increase in government insourcing: (1) The slow pace of the economic recovery;

MONTY FRANKLIN/ENLOW IMAGES



William Stout

(2) increasing activism of public employee unions; and (3) the growing view that engineering services “represent a commodity.”

ACEC has made great strides with federal agencies, such as the U.S. Army Corps of Engineers and others, to balance in-house work with the need for private-sector contracting expertise. But insourcing persists, particularly at the state level. The California Department of Transportation, for instance, does almost all its design work in-house.

Stout, chairman and CEO of Pennsylvania-based **Gannett Fleming, Inc.**, says to combat insourcing, “ACEC must work with Congress, state and local governments, to demonstrate the many benefits of outsourcing such work to private engineers.”

Richard Wells, ACEC chairman-elect and vice presi-

dent of corporate development at San Diego-based **Kleinfelder**, concurs. “ACEC is promoting outsourcing in all legislation and will continue to use our influence to keep the government from delivering any services our membership can provide,” Wells says. “This also includes fighting other issues that are union-related that negatively impact our members.”

Shale Boom

U.S. interest in shale has created demand for new energy infrastructure to gather, process and ship oil and natural gas. ACEC Chairman **Gregs Thomopulos**, chairman of Iowa-based **Stanley Consultants**, says the shale boom offers a broad range of opportunities for Member Firms. The U.S. Energy Information Administration projects U.S. natural gas production to increase from 23.0 trillion cubic feet in 2011 to 33.1 trillion cubic feet in 2040, a 44 percent increase, primarily a result of increased shale extraction.

While shale production is up, other areas of U.S. energy production have stalled. “You cannot build a coal-fired plant right now in the United States because of environmental factors, which is having a negative impact on our industry,” says Thomopulos. Alternative energy projects, such as wind produc-

tion, have also lost some momentum. Merrick & Company’s Christie says lingering uncertainty over tax credits, which were set to expire at the end of 2012, might have had something to do with that. “The wind tax credit has been extended for one year,” Christie says, “but you don’t plan a project for one year.” ACEC is advocating for expanded



Gregs Thomopulos

tax credits.

To fully realize the potential for energy production, ACEC is working with Congress to produce broader energy legislation. “We need to adopt a comprehensive national energy policy,” says **Peter Strub**, ACEC vice chairman and eastern regional vice president of Kansas City-based **TranSystems Corporation**. “This policy has to be all-inclusive, involving nuclear expansion, fossil fuels, includ-



Peter Strub

ing new sources of oil and gas exploration, renewables such as wind, solar and geothermal, biofuels and clean energy standards,” he says.

The ACEC Board of Directors recently approved a new three-year budget that includes the addition of a full-time staff person dedicated to private client issues including energy. “This individual will help develop a strong ACEC energy agenda, including initiatives and programs that promote significant member growth in the

energy and industrial sectors,” explains Strub.

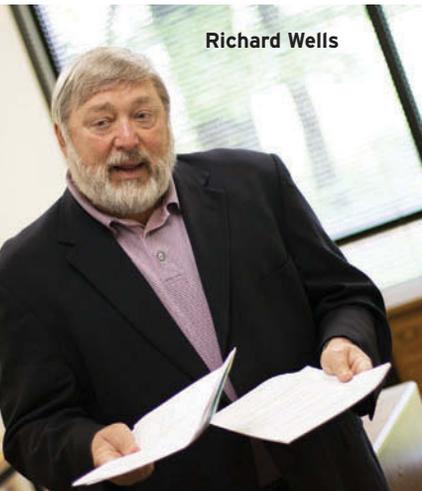
Transportation Market

With the struggling Highway Trust Fund headed toward insolvency, last year’s MAP-21 transportation bill barely managed to match previous funding levels. Many states are having to contribute more to fund vital transportation projects. “Many states have and will continue to pass legislation to increase the investment in their transportation systems, which will generate work for our Member Firms,” says ACEC/Michigan Executive Director and 2013 NAECE President **Ron Brenke**. “The transportation market sector has been suffering, and this should give it a boost.”

Not content to sit and wait for help from Washington, industry data show that 19 states have approved or are considering legislation to improve roads, rebuild bridges and expand public transportation options. Wyoming boosted its gasoline tax by 10 cents per gallon to fund road repairs, while Maryland will raise its gas tax by as much as 5 percent over the next three years to pay for transportation improvements. In Virginia, Gov. Bob McDonnell pushed through complex legislation that eliminated its gas tax while raising \$3.5 billion over the next five years



Ron Brenke



Richard Wells

through sales tax, wholesale gas taxes and other fees.

With more states expected to address transportation funding, Brenke says it's important for ACEC to have a voice within the states. "State Member Organizations will be key in having input at the local level with state departments of transportation and the legislature," he says.

The two-year MAP-21 bill will be up for reauthorization during the next fiscal year, and ACEC will continue to advocate for long-term transportation funding. Strub says the industry is seeing a "shift away from the traditional Highway Trust funding through a user fee to other new innovative funding measures that provide long-term, sustainable funding for our nation's transportation infrastructure."

Health Care/International Markets

Another growing market is the result of advances in medicine and an aging baby boomer population that are fueling a rise in the number of seniors seeking access to health care facilities and services. (See our *Multi-Project Feature on health care facilities solutions on page 30.*)

The Administration on Aging projects that by 2030, the number of Americans age 65 or older will be 72.1 million, an 82 percent increase.

"Due to the aging demographic of the country, we are seeing growth in the health care construction market: more hospitals, clinics and assisted-living facilities," Christie says. "That should provide Member Firms with longer, more consistent opportunities."

Health care, once thought of as a dormant market thanks to relatively low profit margins during the recession and uncertainty over the Patient Protection and Affordable Care

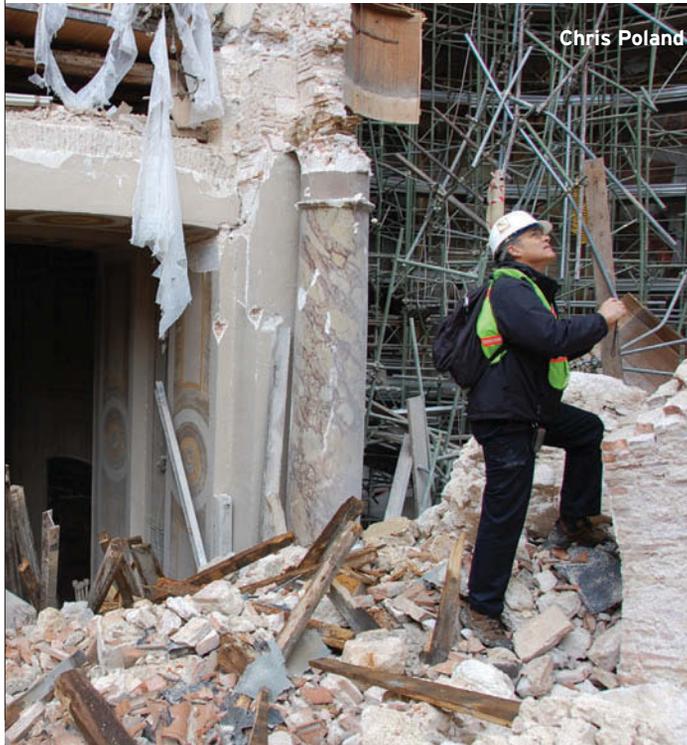


Manish Kothari

Act, is now poised for substantial growth over the next five years. FMI forecasts that health care construction will grow 6.5 percent in 2013, 7.5 percent in 2014 and 11.3 percent in 2015.

While growth in European markets is down, the international market still presents several regions of robust opportunity for U.S. firms. Engineering opportunities in the Middle East and Africa, for example, represent "a big growth area for firms that do international work," Thomopoulos says.

ACEC Vice Chairman **Manish Kothari** agrees. But Kothari, who is president and CEO of **Sheladia Associates, Inc.**, in Rockville, Md., fears U.S. companies may be losing international projects to competitors in China, India and Europe. "We as an industry can once again be the global leader



by ensuring that we move quickly and smartly to market," he says.

Says Thomopoulos, "The ACEC International Committee is well-focused to monitor that most of this work overseas is done by licensed engineers in the United States."

Disaster Preparedness

Preparing for and rebuilding in the wake of natural disasters such as Hurricane Sandy also provide opportunities for many Member Firms.

ACEC Vice Chairman **Chris Poland** notes, "Communities are beginning to realize that they need to plan ahead for natural and man-made hazards. They need to determine how they will recover and encourage the mitigation of buildings and systems that are critical to their recovery."

Poland is chairman and senior principal of California-based **Degenkolb Engineers**, which specializes in structural engineering and earthquake resilience and has experienced increasing demand for resilience design services in California and other areas along the West

Coast. "The threat of earthquakes has become center stage for many clients, public and private, and that brings with it the need to consider both safety and recovery," says Poland. "For Member Firms like ours, with a specialty in seismic engineering, this is providing many new opportunities for evaluation and design services."

Poland says ACEC has become a leader in sustainable design and disaster resilience. "The Council has launched the Envision rating program and is providing leadership at the federal level within the executive



Dave Raymond

branch and through the Infrastructure Security Partnership," he says. "As America rebuilds its infrastructure, it is critical that the reconstruction takes into account the occurrence of natural disasters and designs the features necessary to make those buildings and systems resilient."

ACEC President **Dave Raymond** reflected on the challenges that lie ahead. "While issues that stymie industry growth are significant, they are outnumbered by the growing opportunities—in energy, new industrial and commercial work, and expanding international markets. Our continuous challenge as an industry has been to reinvent ourselves to meet new market directions. We shall succeed in this." ■

Christopher Brandon is a writer and editor based in Washington, D.C.

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2013
Professional
Liability
Insurance
Survey of
Member
Firms for
F.Y. 2012

Premiums

They Remain LOW, PLI Readily Available

By Maureen Conley

Things are looking up for design professional firms, according to the recently completed ACEC Professional Liability Insurance (PLI) Survey of Member Firms for Fiscal Year 2012. Roughly half of the 414 respondents report higher gross revenues for F.Y. 2012, with small and large firms faring slightly better than mid-size firms. >>

And PLI is readily available. Nearly 100 percent of firms with revenues exceeding \$1 million have PLI coverage. Not surprisingly, the smallest firms—those with revenues less than \$500,000—are the most likely to forgo PLI. That number is up slightly from the previous year's survey and bears watching, as the majority of ACEC members are small firms, says Jim Messmore, senior vice president of Hanson Professional Services and vice chairman of ACEC's Risk Management committee.

Premiums as a percentage of revenues remain low, with larger firms (revenues exceeding \$2.49 million) reporting that premiums average around 1 percent of revenues. Smaller firms tend to pay 2 percent to 3 percent as a percentage of revenues. Very few firms pay 4 percent or more. In spite of rate increases being sought by major carriers, "there is still a lot of competition out there," says Albert Rabasca, director of industry relations for

XL Group's Design Professional team.

Single-digit rate increases are the norm this year and signal a "very tame market" with prices rising "in a measured way," observes Tom Bongi, director of Catlin Design Professional. "Firms were paying significantly more in 2003, when the average rate increase from the year before was 15 percent," he says.

85%
Percentage of Member Firms that plan to stick with the same insurance carrier this year.

Source: 2013 ACEC Professional Liability Insurance Survey of Member Firms for F.Y. 2012

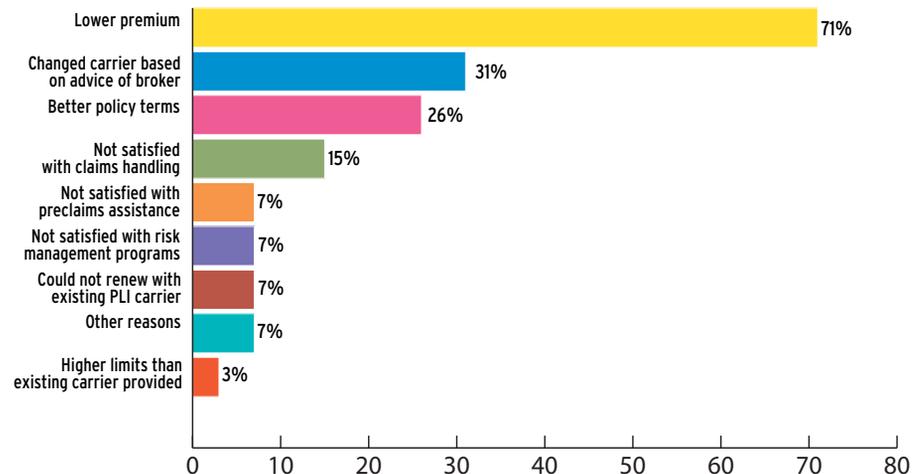
Why Firms Change Carriers

Survey results show that most firms—85 percent—plan to stick with the same insurance carrier this year. Among the 15 percent that plan to change carriers, price remains the most prominent deciding factor. Broker recommendations and better policy terms place second and third, respectively, although firm size is shown to also make a difference.

Of the smallest firms, 25 percent of those that plan to switch PLI carriers say a decision was made only after they were unable to renew with their existing carrier. The next largest group—\$500,000 to \$999,999 in revenues—say claims han-

Reasons Why Firms Changed PLI Carriers

(by Firm Size)



Source: 2013 ACEC PLI Survey of Member Firms for F.Y. 2012

dling dissatisfaction and a need for higher limits drove the decision as much as policy terms.

Mid-size firms (\$2.5 million to \$4.9 million in revenues) cited dissatisfaction with pre-claims assistance as the primary reason to switch carriers, while the largest firms, with revenues exceeding \$100 million, say the No. 1 reason for a change was dissatisfaction with the provider's risk management programs.

Design professional firms tend to favor the lowest-price insurance option, but firms burned by choosing lower premiums over services might come to value services more, says Jeffrey Hirst of American Insurance & Investment Corp., the current president of the Professional Liability Agents Network. Though policy terms do not vary extensively from carrier to carrier, there are often subtle but important differences for firms to consider, such as the definition of "covered professional services," Hirst says.

One policy might feature more favorable exclusions, or offer pre-claims assistance or deductible credits, or extend the policy territory overseas. Policies also sometimes differ in how they treat joint ventures and different ownership interests. Experienced brokers know "what's customary and what is not," and how to compare policies, explains Hirst.

Policy limits are another consideration. Many clients are asking firms to carry higher insurance limits. But firms can't always raise limits with an existing carrier,

says Jeff Connelly, senior vice president of Marsh and broker for the ACEC Business Insurance Trust.

Marsh works to find project excess endorsements that keep costs low but can increase the limit on a specific project. That might mean going to another carrier for the excess coverage, if the primary carrier pushes back on raising limits, Connelly says.

Carriers are often especially careful when it comes to policy limits and project excess endorsements—and won't offer them "when it doesn't make risk or business sense," such as when the limit would cost more than a firm's engineering fees, Hirst explains.

Jeff Todd, president of Charlotte-based Insurance Management Consultations and current president of a/e ProNet, has had to go to excess markets regularly over the past couple years. He says price is still the biggest driver but that claims handling is "where the rubber meets the road." Claims that are not handled properly can cost dearly in terms of both time and money. Brokers can recommend carriers with good claims service, which Todd says is a key reason for buying PLI in the first place—to make clients whole if you make an error and to protect you when you have a claim.

Selecting a Carrier

When selecting a PLI carrier, firms say the three most important factors are expertise (ranked No. 1 by 31 percent of

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responding firms); broker recommendation (28 percent); and price (25 percent). Other important factors include the carrier's overall financial position, specialization in writing PLI for design professionals, and risk management services, according to the survey.

Claims handling and the carrier's reputation are critical, or PLI "is just a worthless piece of paper," says Rabasca. Engineering claims can be complex, so claims handlers "need to be dedicated specialists" in the liability of engineers, he says. Bonggi says firms buy insurance to have "good people and a good company behind you" when claims come in.

Hirst recommends that Member Firms consider carriers that are "committed" to the A/E industry—that support industry associations, do research, educate firms on avoiding claims, and deliver "predictable outcomes for their clients and positive results for the firm."

Claims Activity

Most firms say that the number and scope of claims filed against them has not changed since last year. Design professional firms responding to the survey reported 373 claims in F.Y. 2012, costing firms a total of \$28 million and costing insurance carriers just north of \$27.5 million. These claims reportedly consumed more than 39,000 personnel hours.

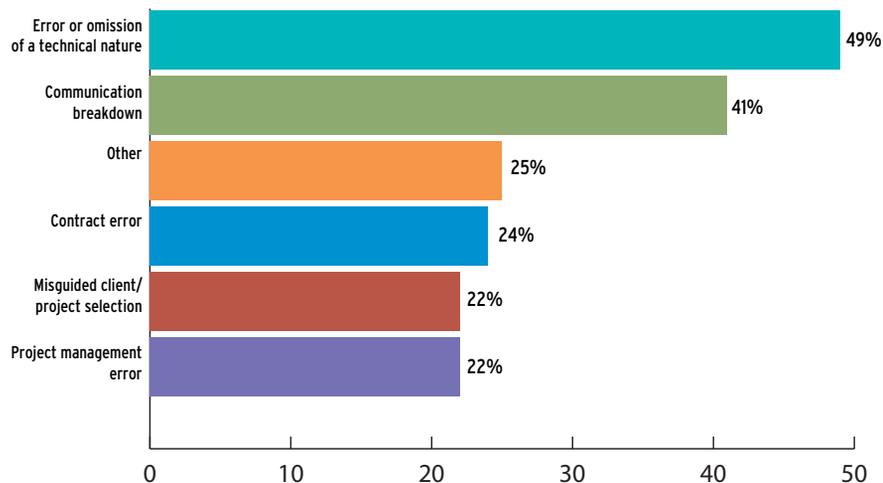
A large number of claims (36 percent) came from private-sector clients, followed by public-sector clients (22 percent). A majority of these claims (55 percent) were resolved through negotiation. Ninety-three percent of all claims were resolved before trial. Less than one-quarter of firms made payments on claims they believed to be frivolous.

Errors and omissions of a technical nature were most frequently cited as the cause of claims (49 percent), followed closely by communications issues (41 percent). Contract issues, client/project selection, project management and other reasons each accounted for less than 25 percent of claims.

Of the firms with revenues totaling more than \$100 million, 35 percent reported an increase in claims. Older claims—filed three or more years ago—are "being settled for a lot more money than they used to be," Hirst says, in part

Causes of Claims

(by Firm Size)



Source: 2013 ACEC PLI Survey of Member Firms for F.Y. 2012

due to higher limits. If a matter is to be settled, Rabasca says it is wise to do so "as early as possible," since costs rise over time. Rising defense costs can translate into less money at settlement and can further entrench complaining parties as they "look for vindication and a reason for all the money they spent," says Bonggi.

Often a design firm's first call regarding a claim is to their broker. Messmore calls his broker "an additional resource" to help filter and gather information and "provide guidance and answer questions as we go through the process."

Catlin collaborates with the insured to achieve the best resolution, whether it's to settle quickly or go to trial, says Bonggi. Because the claims process involves protecting the insured's reputation, Catlin must have the insured's support when it comes to how claims are handled. Every situation is unique, says Bonggi, recalling a claim over a water delivery system failure at a trout farm. "Not only did we have the claim, but we had 10 tons of dead fish to deal with," he says.

XL investigates contract terms and the circumstances surrounding a claim in collaboration with the insured, to assess potential liability and determine possible damages, Rabasca says. The initial assessment helps determine the next steps, which might include assigning counsel and obtaining an independent assessment. Carriers also consider the insured's financial situation, including PLI limits.

The insured is involved in any settlement discussions. XL will "go to trial when we know we're right or somebody is asking for way too much," Rabasca says, adding it is important to have counsel that knows what laws apply, since they can vary widely from place to place.

Risk Management

Firms are largely satisfied with risk management programs, pre-claims services and claims handling, according to the survey. The three carriers insuring the largest number of responding firms—XL Design Professional, CNA/Schinnerer and Catlin—scored highest on risk management satisfaction. The same three firms were joined by Beazley and Travelers among those firms that scored highest on pre-claims and claims handling satisfaction.

Kim Lobdell, president of KL Engineering in Madison, Wis., values the educational tools PLI carriers provide. Ready availability of educational tools has driven her PLI decisions in recent years. Webinars easily deliver risk management information to a broad group of employees, agrees Messmore. By putting it "in the front of their minds, they are more likely to have risk management as part of their thought process when dealing with a client."

The need for open communication is a key message for younger engineers, Lobdell says. "When something goes wrong, you need to get it out in the open,

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evaluate your options and, if you made a mistake, admit it and figure out how to make it better," she says. That advice extends to contacting your PLI carrier about potential problems. "Firms, especially the smaller ones without on-site legal counsel, need practical advice on which direction to go," she says.

It is not webinars or newsletters, but "how available the carrier is when I have a contract to review" that matters most to Paul Beck, president of PBA Engineering in Fairfield, N.J. Many firms, especially the smaller ones, often rely on carriers to review contracts because they do not have staff dedicated to risk management, explains Matt Richards, vice president and corporate secretary for Strand Associates.

Todd says brokers review contracts and can provide sample wording to make sure they are "insurable." Carriers and local attorneys may be asked to review contracts and provide additional "eyes" and expertise, Todd says. Brokers can also tap their networks to find attorneys knowledgeable in the specific laws in the locale where an issue arises, he says.

Pre-Claims Assistance

Messmore puts a high value on whether a carrier has "a good stable of attorneys they can choose from" and that are experienced in handling A/E claims. He says having counsel at the pre-claims stage, or to provide guidance in order to mitigate situations that have the potential to develop into claims, "can really have a big impact on the outcome." Richards adds that pre-claims assistance helps provide an outside look at the problem, which can identify the true cause—allowing the problem to be resolved faster and at lower cost.

Beck says he has paid more for good pre-claims assistance and claims handling expertise, but says there is a limit. Beck and KL Engineering's Lobdell have both been disappointed when pre-claims assistance focused more on contract terms or legal procedures than on understanding what happened and addressing the cause of the problem.

Avoiding Claims

Only about 20 percent of firms say they never turn down work due to concerns about risk, according to the survey.

Richards thinks most firms make busi-

ness decisions to avoid risky projects because of "increasingly limited opportunities to negotiate" engineering contracts. Clients are becoming more rigid, he says, presenting sample contracts at the procurement stage or being "unwilling to negotiate professional service terms."

"Some indemnity clauses ask the engineer to cover all parties for all acts, even those of third parties," explains Samuel McCachern, vice president and chief financial officer for Thomas & Hutton. "It's unreasonable when contractual liability extends beyond professional liability."

For firms that did turn down work because of risk, contract terms and client history are the two biggest reasons. Beck walked away from several jobs over liability issues, including a nationwide structural consultant contract for fast-food restaurant renovations. "Not only were they asking us to take on extensive liability, they were asking us to do it for nothing," he says.

Hanson rarely is forced to turn down work because it does a lot of "upfront work to qualify the client," Messmore says. By asking for contract terms up front, his firm avoids contracting on projects with unfavorable terms. The firm walks away "if we know the client is not open to negotiation and wants us to indemnify them beyond the standard of care," Messmore explains.

Broker Satisfaction

Firms are largely satisfied with their current brokers. Only 7 percent of responding firms said they changed brokers, and most—70 percent—said their brokers presented multiple options.

Skilled brokers are especially important when it comes to managing risk, says Connelly. With 86 percent of firms reporting their principals have primary responsibility for risk management, most firms don't have any other way to access insurance expertise. "These folks have to run their business," he says. "We know insurance, they know engineering." Insurance carriers also want design firms to take responsibility for managing risk, which controls losses and keeps insurance costs down. ■

Maureen Conley is a business and technology writer based outside Washington, D.C.

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By Darlene Bremer



A More Advanced Operating Room

PROJECT:
OR Renovation,
Loyola University
Medical Center,
Maywood, Ill.

FIRM:
Gage Consulting
Engineers, Inc.,
Oak Brook, Ill.

Looking to improve operational efficiencies and patient outcomes, the Loyola University Medical Center decided to create an expanded, hybrid operating room (OR) that would combine the imaging capabilities of a cardiac catheterization lab with the sterile environment of a conventional OR. “Such an

environment enables the medical staff to expand the kinds, types and numbers of procedures and surgeries that can be performed in a single space,” explains John C. Bouse, president of Gage Consulting Engineers. Gage was responsible for designing the mechanical and electrical systems for the space, including accommodating structural changes for new diagnostic equipment; cooling the room that houses the new cath lab equipment and controls; installing new lighting, additional power and back-up power systems; and renovating and upgrading the medical gas system. Work began in August 2010 and was completed in March 2011.

Officials familiar with the



John C. Bouse

project say the significance of a hybrid OR facility cannot be overstated. Such an environment allows a heart surgeon, for instance, to bypass a clogged artery, and then in the same room use balloon angioplasty to clear other, less clogged arteries. “The benefit is patients don’t need to be moved and tests can be performed in conjunction with surgery more efficiently,” Bouse explains. Imaging technology called

biplane angiography provides the surgeon with 3D video images of the patient’s internal organs that are displayed on 11 monitors around the room.

The design did not come without its share of challenges. When the original OR was built, designers left a large amount of space in the ceiling for utilities. That additional space, however, was not part of the original design in a neighboring conference room (part of a separate building to the north of the original OR), which was to become a part of the expanded hybrid facility. The firm had to fit all the utilities for the new control and diagnostic computer rooms in the smaller space. “Dealing with the space where the two buildings actually joined required all of the contractors to work closely with the design team to determine the best ways to literally squeeze such a large volume of wiring into such a small space,” Bouse says.

Working around the monitors and overhead ceiling supports in the existing OR was also a challenge. “We worked closely in the field with the contractors, installers and system integrators to ensure that our designs conformed to the conditions found at the site,” Bouse says.

Relying on expertise gained from projects of similar complexity and challenges, Gage Consulting and the entire project design team provided Loyola University with a unique hybrid environment in which it can deliver the best of all worlds to its cardiac patients.

IONS

ACEC Member Firms outfit outdated health care facilities with the latest mechanical and electrical systems for improved patient care

PROJECT:
Centura St. Anthony
Replacement
Hospital,
Lakewood, Colo.

FIRM:
Cator, Ruma &
Associates, Co.,
Lakewood, Colo.

When officials began thinking about replacing Centura St. Anthony Hospital, an outdated facility more than a century old, a simple retrofit wouldn't do. A new building was the only solution.

The process started in 2007 with local design firm Cator, Ruma & Associates (CRA) handling the initial conceptual and schematic design process. Construction of the main building was finished in February 2011. In June 2011, the hospital served its first patient.

"The original facility could no longer meet the needs of the community," explains Wayne Trader, CRA principal. "The owner decided it was more cost-effective to build an entirely new building rather than try to renovate the old one."

CRA was responsible for designing the mechanical, electrical and plumbing (MEP) systems and for providing commissioning services and construction administration for the new 700,000-square-foot medical campus. St. Anthony's provides state-of-the-art medical technology and offers advanced care in neurosciences, trauma, stroke, cardiovascular, cancer and orthopedic health.

Built on redeveloped land acquired from the General Services Administration, the hospital is across the street from the National Water Quality Lab, which analyzes 30,000

water and sediment samples every year.

"With the two facilities so close, special provisions had to be made to ensure that the indoor air quality of both would remain unaffected by the other," explains Trader. The company partnered with Ft. Collins-based CPP, Inc., a wind engineering consultant, to study the effects of emergency helicopter flight patterns, generator and boiler stack locations, and airborne infection isolation exhaust locations using a scale model of the hospital in a wind tunnel. "With that information, we could ensure the placement of the hospital's exhaust and air intake locations would not be affected by any emissions," he says.

Another challenge was coordinating the MEP utilities for the more than 2,200 pieces of medical equipment, ranging from blanket warmers to sophisticated MRIs and CT

scanners. CRA worked closely with the equipment planner, who was responsible for identifying the exact pieces of equipment and determining their correct locations, then designed the power, water, steam and drainage systems based on utility requirements. "It took multiple meetings with equipment planners, architects and hospital staff to ensure that all equipment was accounted for and operational," Trader says.

Stakeholders say the new hospital has been well received by the public and has brought more than 2,000 jobs to the area, with a positive impact on retail businesses and the area's overall economic and social growth.



Wayne Trader



A Fresh Start for Centura St. Anthony

PROJECT:
**University of
 Minnesota Amplatz
 Children's Hospital,
 Minneapolis**

FIRM:
HGA, Minneapolis

In April 2011, 100 years after it originally opened its doors, the University of Minnesota Amplatz Children's Hospital moved into a new, innovative building for mothers and children. With 320,000 square feet of new construction and 40,000 square feet of renovated space, the new facility provides patient- and family-centered care in more than 50 pediatric and maternal services in one convenient location. "The hospital's primary

goal was to build a new state-of-the-art pediatric hospital that could provide a full range of diagnostic and treatment services for children," says Leigh Harrison, director of electrical engineering for HGA, an architecture, engineering and planning firm.

HGA initiated the project in April 2007 as the architect of record and provided both MEP and civil engineering services. The company was responsible for designing the mechanical and electrical systems for the new construction and remodeling of the facility to provide an integrated infrastructure upgrade. Primary mechanical components included a new chiller and cooling tower and related piping within the existing central plant. HGA also developed an energy conservation module that enables control of the chilled-water central plant to optimize energy use. The upgraded electrical system replaced the existing main

switchboard with a new, dual-feed switchgear with automatic transfer capabilities for back-up power generation.

One of the more significant challenges was providing integrated design services for all of the system's complex bone marrow transplant rooms. "Because patients undergoing bone marrow transplants require complete isolation and control of all environmental systems to prevent infection, we worked with the university's infection control experts and construction team to design and commission an entire floor that is isolated from the rest of the hospital," Harrison explains. Each room has a separate sensor and control system that maintains positive pressure from the room to the adjacent corridor, and the floor's ventilation system supports isolation from the other floors.

HGA tested a mockup transplant room during construction that enabled the design and construction teams to develop

best practices for sealing the rooms to maintain pressure differentials and ensure patient safety. "In addition to air control, each room is also supplied with dialysis water from a state-of-the-art heat-disinfected dialysis water system to further ensure there is no contamination while patients are undergoing and recovering from procedures," Harrison says.

HGA continues to provide ongoing value management of all the facility's systems to ensure optimal energy efficiency, long-term value, and the improved health and well-being of its child patients. As Minnesota's first green children's hospital, the facility also features an environmentally sensitive design, eco-friendly materials and green spaces.



Leigh Harrison

Minnesota's First Green Children's Hospital



Seismic Changes For Health Care In Escondido

PROJECT:
Palomar Medical Center, Escondido, Calif.

FIRM:
M-E Engineers, Inc., Los Angeles

To serve the needs of their growing community, voters in 2004 approved funding for a new medical facility in west Escondido, near San Diego. Shortly afterward, M-E Engineers began work on the conceptual design for the new Palomar Medical Center.

When it was completed in 2012, the 739,000-square-foot medical and regional trauma center included an 11-level inpatient tower, a two-level diagnostic and treatment wing, a two-level central utility plant and a 50,000-square-foot sustainable green roof garden.

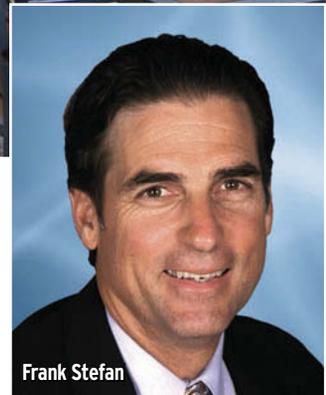
“We were also responsible for designing the utility infrastructure for the rest of the site to accommodate future development, such as medical office buildings and expanded hospital facilities,” explains Frank Stefan, M-E principal.

Using a hybrid Integrated Project Delivery system, the firm worked with the owner’s representatives, architect, general contractor and subcontractors to further refine the project’s programming needs and develop a design that would satisfy all stakeholders. “It considered the best way to fulfill the owner’s goal of patterning the design to LEED’s Green Guide for Health Care program and creating an architecturally and technically innovative facility,” Stefan says.

Earthquakes are a primary concern in California, and a key challenge was meeting new stringent California code

requirements for equipment seismic certifications. “To achieve certification, equipment listed by the Office of Statewide Health Planning and Development must be tested on a shaker table to ensure operability after a seismic event. Larger pieces of equipment can be tested via computer modeling techniques,” explains Stefan. Various third-party labs, including the University of California at Berkeley, perform the testing.

Where the building owner is concerned, the main benefit of certification is the knowledge that the hospital’s equipment has undergone more rigorous tests and is more likely to survive a seismic event. “The certification testing done for this project also has paved the path for vendors and engineers on future similar projects because the same equipment does not need to be retested,” Stefan says.



Frank Stefan

The firm also had to meet stringent sound criteria at the property line of the main hospital building and throughout the site to avoid disturbing patients and nearby residential areas. The firm worked with an acoustical engineer to modify elements of its original design by incorporating different equipment choices and construction methods.

As part of the “high-performance team” formed to develop strategies for the successful delivery of this project, M-E Engineers was instrumental in creating a facility that provides the community with access to advanced health care services. ■

By Bob Woods

Insights *of* Outsourcing

Third-party **business and administrative services** allow firms to focus on serving clients

When Susan Langdon launched Savant Group, a small engineering firm in Dallas, she had 15 years of experience in traffic signal design and operations. What she didn't have, however, was the know-how—or the staff, for that matter—to handle the accounting, information technology, marketing and other administrative functions required to run the business. So, Langdon did what a lot of small and mid-size business owners have done of late: She outsourced some of those tasks.

“We’ve outsourced our payroll since we started,” says Langdon, whose company has grown from two engineers to nine. “It just seemed easier, and it was one less thing on my desk. That firm also does our benefits work,” including employees’ 401(k) plans.

Savant Group is one of a growing number of engineering firms that has sought outside expertise for help with critical,

though not core, business and administrative functions.

Some 80 percent of ACEC’s more than 5,000 Member Firms have 50 employees or less. For many of these firms, outsourcing select business functions, from accounting to payroll to website design to human resources (HR), has become a necessary reality of doing business.



PETER CADE/GETTY IMAGES



A recent survey of ACEC firms that outsource found that 61 percent did so for payroll, 36 percent for information technology (IT), 28 percent for accounting and 16 percent for “other” services.

Outsourcing select business operations, as opposed to running the entirety of your business in-house, has benefits, as well as a few risks. Advocates say outsourcing is generally more cost-effective. “Many firms don’t have enough bodies over which to amortize those costs as a proportion of their expenses,” explains Raymond Kogan, president of Kogan & Company, an Arlington, Va.-based strategy and management consulting firm that serves the design and construction industry. Kogan cites HR, accounting, marketing and information technology as components of a successful business, especially in today’s economy. “You really need all four of those firing on all cylinders,” he says.

While Kogan recognizes that engineers at smaller firms often wear multiple hats to fulfill administrative needs, he offers a word of caution about spreading talent too thin. “Individuals can step up their game and do an adequate job, but more often than not they don’t do as well,” he says.

Taking on extra duties often amounts to a distraction—one that could negatively affect an employee’s quality of work. “We had an engineer who really liked setting up servers and maintaining laptops,” Langdon explains, “but it eventually impacted his ability to maintain his clients and stay up with his projects.” That’s why she decided to outsource Savant’s IT operations.

“My concern is that some well-meaning engineering firms try to run too lean,” Kogan says. “It’s not a matter of minimizing administrative costs but of optimizing

Why Do Firms Outsource?

A recent ACEC survey of Member Firms found the rates at which they outsource the following:

61%: Payroll

36%: Information Technology

28%: Accounting

16%: Other Services

Source: ACEC

those costs and making sure they get the biggest bang for the buck in a competitive market.”

The Right Amount of Lean

Just the right amount of lean has sustained Haley and Ward, Inc., since 1897, when the small civil and environmental engineering firm first began providing water supply and wastewater disposal services to southern New England municipalities from its offices in Maynard, Mass. With just 15 employees, President Scott Miller has little choice but to manage the business using a mix of in-house and outsourced resources.

“For the most part, we outsource the heavy lifting,” explains Miller. “We’ll outsource a computer server installation but handle minor IT issues, such as email problems, internally. It’s the same with our accounting functions. Our day-to-day record-keeping and monthly reports are done internally by a part-time employee, while the annual review of those documents, together with our tax filings, are handled by an outside accounting firm. In both cases, items that need flexibility, quick response and lower risk are handled internally. The larger, in-depth projects are outsourced to outside professionals with whom we have developed strong working relationships over the years.”

CliftonLarsonAllen (CLA) is a prime example of a professional group that offers outsourcing functions to small and mid-size businesses. An accounting firm with headquarters in Minneapolis and Milwaukee and offices in 35 states, CLA serves privately held companies across various industry sectors. “We provide outsourcing of accounting and payroll services at three levels—staff accountant, controller and chief financial officer,” says Emily Gunther, who works primarily with engineers, architects and contractors.

Gunther helps clients decide at what point outsourcing accounting functions makes sense, or not, by considering a company’s size and growth strategies. “If

your revenues are in the \$1 million to \$15 million range, outsourcing works well,” she suggests. “Once you get over the \$15 million mark, though, outsourcing doesn’t make the most sense.” From another perspective, Gunther adds, “If you need to have someone in your office performing a function more than three days a week, it makes sense to bring that function in-house.”

Gunther’s benchmarks point to the benefits of outsourcing while a company grows. “Bringing in someone with specific industry expertise can provide the leverage you need during that growth period,” she says. “Then there’s flexibility. Maybe you only need that person one day a week or month, so you don’t have to pay a staff person full time.”

That was Langdon’s rationale. She decided that to continue expanding, the firm needed outside assistance in marketing its transportation services to state agencies, local municipalities and private developers. “Being engineers, marketing is not our forte,” she says. “We wanted someone to help us focus on strategic planning, facilitate introductions to prospective clients, write proposals and things like that.”

Langdon hired a small marketing firm. Her intent was to eventually bring a dedicated employee on board to fill the resource gap. “From the start, I explained that our goal was to ultimately get someone in-house who could do our marketing. There was an understanding that this was a short-term need for us, not a long-term need.” In fact, the outsourcing firm advised Langdon when she hired a full-time marketing coordinator.



“It’s not a matter of minimizing administrative costs but of optimizing those costs and making sure they get the biggest bang for the buck in a competitive market.”

RAYMOND KOGAN
KOGAN & COMPANY

Firms of various sizes commonly outsource hiring, training, retention and other HR functions. “We help small clients set up their HR shops if they don’t have the basics, from creating offer letters to job applicants to producing an employee handbook,” says Barbara Irwin, founder and president of HR Advisors Group in Herndon, Va. “Some of our outsourcing clients have 50 to 90 employees but don’t want to or see a need to bring in a full-time HR person. We may go in once a week or twice a month, depending on their needs, and help them hire people, create performance appraisal programs, and with compensation planning, performance management issues and benefits packages.”

Like CLA’s Gunther,

Irwin suggests gauging when it’s time to bring a function in-house. “It might be a firm of 50 employees ready to grow to 75 or 100 employees, which a lot of organizations use as a barometer,” Irwin says. “We figure out what they’re doing, or not doing, from a compliance perspective, as well as best practices. We do an assessment and give them a road map on how they can move forward with their HR function.”

Right Decision, Right Time

Of course, hiring the right outsourcing firm or person at the right time is important, too. “Our local ACEC organization provides us with opportunities to talk with other firm leaders about issues related to HR, finance and risk management through leadership roundtables and forums,” Miller says. “It’s helpful to hear how other firms are addressing similar issues successfully.”

Langdon appreciates that type of information exchange among her peers. “It’s important to stay on top of these issues as an owner,” she says. “Making the wrong choices has the potential to do damage to the company. You may think you’re on course, but something could derail you.” ■

Bob Woods is a business and technology writer based in Madison, Conn.



“We wanted someone to help us focus on strategic planning, facilitate introductions to prospective clients, write proposals, and things like that.”

SUSAN LANGDON
SAVANT GROUP

Construction Phase Risk Management: Essential Insights

A design project comes to life during the construction phase. It is the construction phase that transforms the design from paper, or from bits and bytes, to the client's and the design professional's vision. This phase has its own risks, which need to be managed through proactive planning and established best practices.

The first step in managing these risks is to be involved. Most professional liability insurance carriers will attest that being involved in the construction administration phase of a project significantly lowers the probability of facing insurance claims. Reason: It is a lot harder to be blamed for a problem when you are there to defend yourself.

Questions will arise about the design during the construction phase, and design professionals will be the most qualified to answer. It is their design, and they know the intent of the construction documents. They also are in the best position to resolve any conflicts that might arise out of the construction documents.

The design professional's scope of services during the construction phase, as well as every other phase, needs to be clearly defined, and care should be taken that it is achieved. This is especially important when it comes to the purpose and frequency of site visits.

“The design professional needs to remain the client's trusted adviser in all phases of a project.”

Exhibit A of the Engineers Joint Contract Document Committee's (EJCDC's) E-500 “Agreement Between Owner & Engineer for Professional Services” states, in part, “to observe...the progress of Contractor's executed Work.” Note that the construction is being “observed,” not inspected or supervised. The observations will not “extend to every aspect of Contractor's Work,” be “exhaustive” or involve a “detailed inspection,” according

to the document. This description speaks for itself and leaves little doubt to the purpose of the site visit.

EJCDC's Exhibit A also states, in part, “Make visits to the Site at intervals appropriate to the various stages of construction, as Engineer deems necessary.” The engineer should use his or her judgment to determine when to make site visits based on the stage of construction. This clearly defines who determines when it is important to make site visits. Avoid using terms such as “at critical points,” because it may not be known that a point was critical until after the fact.

It is equally important to use professionals who are qualified to perform site observations and document the site visit. In addition to basic information on the site visit—time, date and weather, for example—the documentation should also include the people talked with, questions raised and any answers or interpretations provided.

Photography is a good way to document these observations. Take care to document only the pertinent aspects observed. Taking random photos could come back to haunt the observer and his or her firm. If the photos show something that turns out to be problem-



HYBRID IMAGES/GLOW IMAGES

atic, it might be alleged that the observer saw the problem when he or she was at the site and was negligent in not identifying it.

A copy of the report from the site visit should be shared with the client and contractor. Sharing a copy with the client ensures that the client is informed on the progress of the project. A copy shared with the contractor is a confirmation of any verbal information relayed at the construction site.

The contractor might ask to substitute a product or piece of equipment for what was specified. If evaluating substitutions is an additional service, the design professional should get the client's authorization before evaluating. If the evaluation determines the substitution is not equal in performance or quality, present the client with any advantages and disadvantages of the substitution.

There might be cost savings associated with substituted products or equipment, and the client might be eager to take advantage of those cost savings. After being presented with the advantages, disadvantages and potential costs, the client can approve or reject the substitution. If the design professional approves the substitution instead of the client doing so, the substitute becomes the design professional's responsibility, just as if it had been included in his or her original design. In all cases, the evaluation process and the outcome should be documented in writing.

Managing risk during the design phase begins with being involved. The design professional needs to remain the client's trusted adviser in all phases of a project. By keeping the client informed and advising the client throughout the entire project, the design professional will go a long way toward effectively managing the risks of the construction phase.

Charles W. Kopplin has more than 40 years' experience as a consulting engineer and is former chairman of the ACEC Risk Management Committee. He can be reached at cw.kopplin@gmail.com. Glen R. Mangold is managing director of the Architects/Engineers program for Markel Corporation. He can be reached at gmangold@MarkelCorp.com.

ACEC 2013 Fall Conference ■ October 27-30, 2013
Fairmont Scottsdale Princess, Scottsdale, Arizona



Market Trends & Challenges



Keynote Speakers



Mitch Daniels
Former Indiana Governor and President, Purdue University
The Private Sector and Public Projects



Victor Mendez
FHWA Administrator
MAP-21 and the Future of the Federal Highway Program



Fred J. Studer
General Manager, Microsoft Dynamics
How Technology Will Transform the Business of Engineering

COURTESY SCOTTSDALE CONVENTION AND VISITORS BUREAU

CEO Panel: Trends in Private Client Markets—Commercial, Industrial, Energy



David Cooper
President and CEO
WSP USA



Henry Lucas
President and CEO
ECS



Kam Movassaghi
President
Fenstermaker

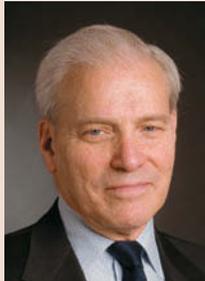


Mahadev Raman
Chairman
Arup Americas

Expert Panel: Transportation Funding Options and Outlook



Greg Cohen
President & CEO
American Highway
Users Alliance

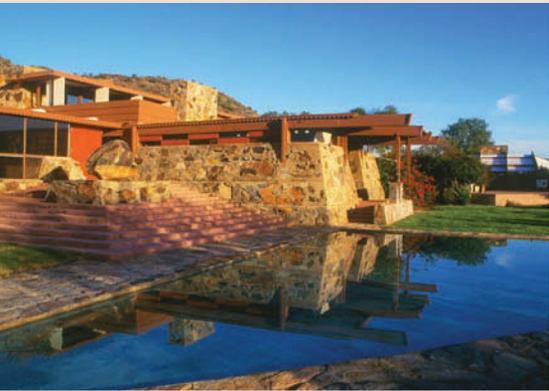


Emil Frankel
Former Assistant
Secretary of
Transportation, now
Visiting Scholar
Bipartisan Policy
Center



Kerry O'Hare
Vice President and
Director of Policy
Building America's
Future

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KERRICK JAMES/LAMY



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Conference Highlights

- CEO Roundtables
- Business and Legal Forums
- CIO, CFO Symposia
- CASE Risk Management Convocation
- 33 Business Management Seminars
- Awards Presentations
- Earn 21.75 PDHs

Local Color Night—Sundown at The ACEC Corral

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ACEC/PAC Sweepstakes Activities

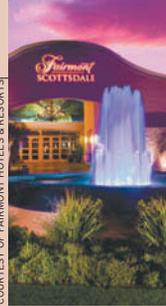
- ACEC/PAC Sweepstakes Drawing—Grand Prize: \$10,000 Cash!
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The highly acclaimed 5-star Fairmont Scottsdale Princess Resort offers world-class amenities in a breathtaking environment. Surrounded by mountains and sun-washed stone, the resort offers something for everyone—an array of award-winning restaurants, championship golf courses, cultural activities and shopping. ACEC’s room rate is \$279, single/double occupancy, plus tax for the Fairmont Rooms. Room reservations must be received by Sept. 27.

Conference Registration Is Now Open!

- Early-Bird Registration Discounts are available until September 27—Save \$100
- Additional Discounts are also available for First-Time Attendees as well as Additional Registrants from the Same Firm.
- For more information and to register online, go to www.acec.org.

COURTESY, SCOTTSDALE CONVENTION AND VISITORS BUREAU



JOHN HAYGETTY IMAGES



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ACEC/FHWA Training Program for Federal Audits

ACEC and the Federal Highway Administration's (FHWA's) National Highway Institute (NHI) have teamed up to provide an industrywide training program on audit and procurement practices under the Federal Acquisition Regulation (FAR). This important three-part training program, taught by leaders of the AASHTO Audit Guide Task Force, is designed to educate public- and private-sector transportation practitioners about government contracting for A/E services, and the administration and oversight of contract costs.

The one-day introductory course reviews A/E contract cost components, regulations and standards, risk factors, and auditor roles and responsibilities. Following the introductory course, a two-day workshop details how to apply the AASHTO Audit Guide in the development and administration of A/E consultant direct and indirect costs and rates. The third course in the series focuses on audit requirements and procedures in reviewing compliance with federal regulations and guidance.

Mysteries of the FAR Revealed: Using the AASHTO Audit Guide, a comprehensive FAR compliance and oversight training program for state DOTs and A/E firms, was held for the first time in Harrisburg, Pa., June 10–14, offered jointly by ACEC, ACEC/PA, NHI and FHWA. It will be offered in other states in the coming months. For future dates and locations, visit www.acec.org.

SEI Website Gets a New Look for Class 19 Launch

The ACEC Senior Executives Institute (SEI) has a new online presence that is easily accessible from desktop, tablet or smartphone, and offers a faster and more intuitive visitor experience. Despite the online upgrades, SEI's mission remains the same: Turn effective A/E managers into successful executives and forward-thinking industry leaders.

SEI's program works on multiple levels to help executives identify and explore their unique leadership styles with the goal of developing stronger, more effective corporate leaders. Over 18 months, participants work to build core knowledge, skills and business acumen. SEI's program encourages creative thinking and vision beyond the day-to-day or year-to-year approach of A/E business management to facilitate a greater awareness of the industry.

By strengthening the effectiveness of their leadership, executives can better clarify what matters for themselves and their businesses, thus creating an environment where compelling visions, goals and strategies emerge and take root. Applications are being accepted for SEI's Class 19, which starts in September in Washington, D.C. To learn more, visit sei.acec.org.

Tools, Contracts, Publications for Mechanical/Electrical and Site/Civil Firms

Business management and safety risks are two critical concerns for mechanical/electrical and site/civil firms. To address these issues, the Council for American Mechanical and Electrical Engineers (CAMEE) and the Land Development Coalition (LDC) offer several publications, tools and contracts to help firms navigate around risk. CAMEE publications cover planning, compensation, communications, education, quality, M/E submittal checklists and contracts. Each focus area includes worksheet and sample documents for M/E engineers to use in the daily business of their firm. LDC publications cover marketing, project management, financial management, risk management and staffing. Each LDC focus area also includes worksheets and sample documents.



New Releases

CAMEE Tool 2-3—Ratio Analysis. This tool provides a method for determining the financial health of an engineering firm. The ratios give business leaders the ability to compare the current financial performance of a firm against past financial performance, or against national averages for similar firms.

LDC 1-A-1—Successful Qualifications. This tool puts together General Qualifications meant to inform clients of an engineer's abilities and experience to perform the work, without including a lot of "marketing mumbo jumbo."

LDC 1-A-2—How to Approach New Clients. This white paper provides a roadmap for initial client meetings, taking firms through essential upfront planning to post-meeting follow-up.

LDC 1-A-3—Writing Successful Proposals. A successful project proposal provides all the information a client needs to make an informed decision about a firm, while offering necessary protections for the firm if and when it gets the contract. This resource helps firms write successful proposals.

All ACEC Coalition-developed products are available at www.booksforengineers.com.

The ACEC Institute for Business Management provides comprehensive and accessible business management education for engineering company principals and their staffs. Visit ACEC's online educational events calendar at www.acec.org/calendar/index.cfm or bookstore at www.acec.org/publications, or call 202-347-7474, ext. 338, for further information.

What You Need to Know About Long-Term Care Insurance

We rush to insure the traditional risks—our home, cars and health... but what about insuring our future long-term care needs?

Long-term care is not covered by traditional employer-based health care benefits or by Medicare; it is a separate insurance policy covering specific services, such as nursing home, assisted living and in-home care.

The population in America is changing. With healthier lifestyles and medical advances resulting in Americans living longer, the need for long-term care is increasing. According to a recent consumer poll, an overwhelming 74 percent of respondents between the ages of 55 and 65 say they are concerned about needing some kind of long-term care.

It's estimated there are 44.4 million American caregivers age 18 and older who provide unpaid care. Statistics also show that the annual cost to companies for workers' lost productivity due to eldercare responsibilities is estimated at \$2,110 a year per employee, to the overall tune of \$33.6 billion per year.

\$33.6B:
amount
of money
companies
lose per year
due to lost
productivity
as a result of
eldercare.

SOURCE: ACEC LIFE/
HEALTH TRUST

Although Medicare provides valuable benefits, it doesn't cover these costs. Long-term care insurance helps bridge the gap by covering the costs for nursing homes, assisted living centers and in-home care. It is a timely benefit that meets the growing concerns of employees who are responsible for their aging parents and worried about the consequences of their own longevity.

Long-term care coverage offers your employees a tremendous advantage.

It gives them access to insurance at a younger age when premiums are lower

and good health makes them more likely to qualify. A benefit plan that does not include long-term care insurance leaves your employees' life savings and quality of life at risk from the high costs of care.

For many workers, just one or two years of nursing home or home-care bills can wipe out an entire lifetime of savings. With the national average for private annual long-term care costs reaching \$85,000, the consequences of prolonged illness or disability can be devastating, even to upper-income Americans.

Consider the potential impact of caregiving on employers and employees:



- Employers bear caregiving-related financial costs and lost productivity.
- Financial, emotional and physical well-being of caregivers is compromised.
- Employee work performance suffers.

Long-term care coverage is an important part of your employees' retirement plan. In turn, this protection may provide you the added advantage of attracting and retaining qualified employees, and helping them avoid missing work to provide care for loved ones.

"Long-term care insurance can be a very powerful benefit to offer employees," says Pat Feyen, president, ACEC Life/Health Trust. "In addition to the potential tax deductions and simplified underwriting, employees will feel secure and loyal knowing that their company is considering their future care needs and protecting their retirement funds from any potential long-term care events."

In cooperation with LTC Financial Partners (LTCFP), the ACEC Life/Health Trust has crafted a long-term care program to further educate employees on this subject. LTCFP is available to help you by offering educational one-on-one consultations and workplace seminars. To learn more, call toll-free 877-761-6982 or visit www.LifeHealthTrustLTC.com.

ACEC
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Members in the News

On The Move

Steve Edwards will succeed **Len Rodman** as the new chairman, president and CEO of Overland Park, Kan.-based **Black & Veatch** when Rodman retires at the end of 2013, after 42 years of service to the firm.

Merrick & Company, based in Greenwood Village, Colo., elected President **David G. Huelskamp** to serve as CEO, succeeding **Ralph W. Christie Jr.**, who will continue as chairman. Christie, who has served as chairman and CEO for 16 years, is a vice chairman on ACEC's Executive Committee.

Former ACEC Chairman **Daniel J. DeYoung** has retired from **DJG, Inc.**, the Williamsburg, Va., firm he founded 35 years ago. As part of the transition, **Donald**

Booth was appointed president and **Adam Mickiewicz** vice president.

Middletown, N.J.-based **T&M Associates** named President **Gary C. Dahms** chairman and CEO. Dahms succeeds **Kevin F. Toolan**, a 40-year veteran of T&M who led the firm from 1997 until his retirement in January. Dahms previously served as the firm's COO and executive vice president. Those positions are now held by Michael Roeder, an environmental engineering, planning and program management expert who previously led T&M's Environmental Business Unit. The firm also appointed Senior Vice President **Ihsan Al-Fayyomi** to its board of directors. He is based in Columbus, Ohio.

Woburn, Mass.-based **GEI Consultants, Inc.**, elected **Raymond D. Hart** as president. He replaces **Francis D. Leathers**, who will return to full-time client practice after serving 14 years as president. It was previously announced that **Ronald Palmieri**, formerly senior vice president and central region manager, would assume the role of COO, replacing Hart. Hart is based in the firm's west region headquarters

in Rancho Cordova, Calif. Palmieri is based in the firm's central region headquarters in Libertyville, Ill.

Houston-based civil engineering firm **Cobb, Fendley & Associates, Inc.**, appointed **Dale Conger** president. Conger, who previously served as vice president, replaces **Allen Watson**, who retired in June. Conger will be based in the firm's headquarters.

Michael Baker Jr., Inc., a unit of Michael Baker Corporation, appointed **Beth Drylie** senior vice president and Mid-Atlantic transportation manager. Drylie will oversee Baker's transportation activities in the Mid-Atlantic region and will continue to operate out of Baker's Virginia Beach office.

URS Corporation named **William Harnagel** vice president and corporate controller. Harnagel will be based at the firm's San Francisco headquarters.

Pasadena, Calif.-based **Parsons** appointed **Randy Morgan** executive vice president of operations of Parsons Government Services (PGS), where he will maintain operations



Steve Edwards



Len Rodman



David G. Huelskamp/Ralph W. Christie Jr.



Daniel J. DeYoung



Donald Booth



Adam Mickiewicz



Gary C. Dahms



Dale Conger



Beth Drylie



William Harnagel



Randy Morgan



Romolo Raciti



José Abreu

across all PGS divisions and projects and oversee nine support departments. Morgan is based in Centreville, Va. **Romolo Raciti** joined Parsons as a senior vice president and manager of its Engineering and Environmental Services Division. He will be based in Houston.

José Abreu joined **Gannett Fleming** as a senior vice president. Based in the firm's Miami office, Abreu is responsible for the firm's strategic growth and business development initiatives related to transportation and other infrastructure in Florida, as well as in national and international markets.

Cendy Dodd has joined Nashville, Tenn.-based **Barge, Waggoner, Sumner and Cannon, Inc.**, as the firm's CFO. The firm also appointed four new vice presidents: **Steven Edwards**, who currently serves as manager of the structural engineering group, is based in Nashville; **David Korda**, who is manager of industrial and building design services, is based in Knoxville, Tenn.; **Kevin Lindsay**, who is the client services manager, is based in Birmingham, Ala.; and **David Winter**, who is a senior manager, is based in Nashville.



Raymond D. Hart



Ronald Palmieri



Cendy Dodd

Calendar of Events

JULY

- 9** Louder Than Words: 10 Practical Employee Engagement Steps That Drive Results! (online seminar)
- 16** Raising Your Marketing ROI—Using Real-World Numbers to Measure and Manage Your Firm's Marketing and Business Development Activities (online seminar)

- 24** Preparing Your Firm's "Next You" (online seminar)

AUGUST

- 6** The Pathway to Success (online seminar)
- 13** Using Design Thinking to Build Business and Break the Commodity Trap (online seminar)

SEPTEMBER

- 10** Your Clients Talked, We Listened: Top 10 Research Findings Every Firm Should Know (online seminar)
- 24** Strategic Decision-Making in Uncertain Times (online seminar)

OCTOBER

- 9** Client Research: Debunking Myths and Maximizing ROI (online seminar)
- 15** The Engineered Interview: A Civil, Structured, Electrified Approach to Winning More Business (online seminar)
- 27-30** ACEC Fall Conference, Scottsdale, Ariz.

To sign up for ACEC online seminars, go to www.acec.org/education.

Additional information on all ACEC activities is available at www.acec.org.

Welcome New Member Firms

ACEC/California

Advanced Survey Concepts, Inc., Trabuco Canyon
Idlof Consulting, Carmichael
Snyder Langston, Irvine

ACEC/Colorado

Doctor Mole Incorporated, Littleton
Ensign Engineering & Land Surveying, Colorado Springs
Jviation, Inc., Denver
Ritchey Engineering, Inc., Lakewood

Silvertip Integrated Engineering Consultants, Westminster
Wohnrade Civil Engineers, Inc., Broomfield

ACEC/Delaware
Built Form, LLC, Wilmington

ACEC/Idaho
2KS Consulting, Victor
ES2, Engineering System Solutions, Idaho Falls

ACEC/Illinois
Thouvenot, Wade & Moerchen, Inc., Swansea

ACEC/Indiana
FPBH, Inc., North Vernon

ACEC/Louisiana
FDH Engineering, Inc., Baton Rouge

ACEC/Maine

D&S Engineering, Inc., Millinocket

ACEC/Maryland

Kim Engineering, Inc., Silver Spring
Mimar Architects, Inc., Baltimore

ACEC/Metro Washington

Los Alamos Technical Associates, Sterling, Va.

ACEC/Michigan

Advanced Geomatics, Novi
Shymanski & Associates, LLC, Farmington Hills

ACEC/Minnesota

AKF Group, LLC, Minneapolis
Donohue & Associates, Inc., St. Louis Park
Pierce Pini & Associates, Blaine

ACEC/Missouri

Great River Associates, Springfield
McClure Engineering, St. Louis
Premier Engineering Consultants, LLC, Kansas City
Roeslein & Associates, Inc., St. Louis

ACEC/New York

Matrix Engineering Services, PC, New York
ROC Geotechnical Consulting Engineers, Rochester

ACEC/Ohio

Terradon Corporation, Westerville

ACEC/Oregon

Hemphill Water Engineering, West Linn

ACEC/South Carolina

ESP Associates, P.A., Fort Mill

ACEC/Tennessee

ACOT Associates, LLC, Memphis

ACEC/Texas

Cinco Resources, Inc., Dallas
Earth Engineering, Inc., Houston
EPIC Transportation Group, LP, Sugar Land
OJD Engineering, LP, Wellington

ACEC/Virginia

Engicon USA, Inc., McLean
Roach Consulting Engineers, P.C., Norfolk

ACEC/Washington

Bainbridge Structures Group, LLC, Bainbridge Island

ACEC/Wyoming

STRATA, A Professional Services Corporation, Gillette

Mid-Year M&A Dashboard: All Indicators Are Green for Go

The long, slow economic recovery may not provide the greatest business environment for ACEC Member Firms, but it's driving consolidation in the industry.

Through the middle of 2013, M&A activity among A/E/C firms was decidedly strong and increased relative to the record levels set in 2012. As of May 15, we tracked 78 reported domestic deals versus 62 over the same period last year, nearly a 26 percent increase. Looking at the last 12 months, deal volume in the United States is up 13 percent.

Return to Growth-Oriented M&A?

Year to date, 62 percent of U.S. deals took place across state lines. This represents the highest percentage of interstate deal activity since the onset of the Great Recession and the subsequent slow-burn recovery.

Through the recessionary environment and its uncertain aftermath, we saw a pattern where almost half of all deals occurred between firms within the same state trying to consolidate their position in a shrinking market. If this trend continues to play out, it will indicate that A/E/C buyers are feeling more confident about the future and are willing to invest in out-of-state growth again.

Texas and Western States Are Hot

Texas continues to attract the most attention from buyers, with eight firm sales reported through mid-May. California and Colorado also showed robust activity through the first half of the year, with seven deals reported in each state. Most of the Colorado deals were tied to hot water, energy and natural resources markets. The recovering southeastern

U.S. economy also yielded relatively strong deal activity, with Florida reporting seven and North Carolina reporting six firm sales. We expect to see deal activity continue in these and other states as buyers use acquisitions to quickly take advantage of recovering markets.

Recent ACEC Deal-Makers

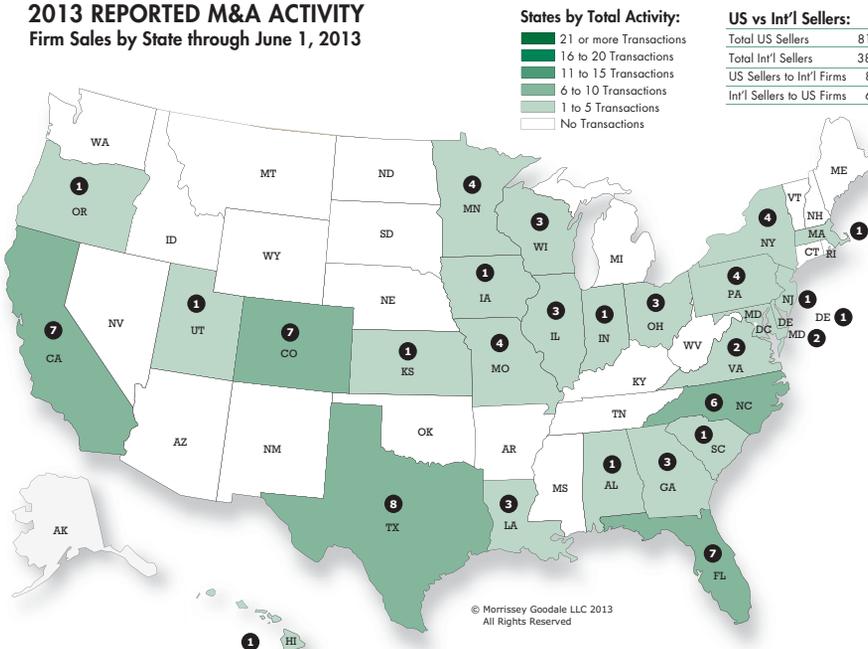
- ACEC Member Firm **Merrick & Company** (Greenwood Village, Colo.), an international engineering, architecture, design-build, surveying and geospatial solutions firm, announced its acquisition of **K.M. Ng & Associates Inc.** (San Antonio). The acquisition extends Merrick's reach throughout Texas and the southwestern United States on private, government, sustainable infrastructure and water projects.

environmental, and surveying and mapping services, with four additional offices in Florida.

- **Fay, Spofford & Thorndike Inc. (FST)** (Burlington, Mass.), an ACEC Member Firm, announced its acquisition of **DeLuca Hoffman Associates Inc.** (South Portland, Maine), a 22-person civil and environmental engineering company. The acquisition strengthens FST's core civil engineering, planning and environmental consulting services while bolstering its existing portfolio in municipal, commercial, institutional and certain transportation markets.

To view the most up-to-date and "live" versions of the M&A heat maps accompanying this article, and to see who are the buyers and sellers in each state, go to www.morrisseygoodale.com. ■

2013 REPORTED M&A ACTIVITY
Firm Sales by State through June 1, 2013

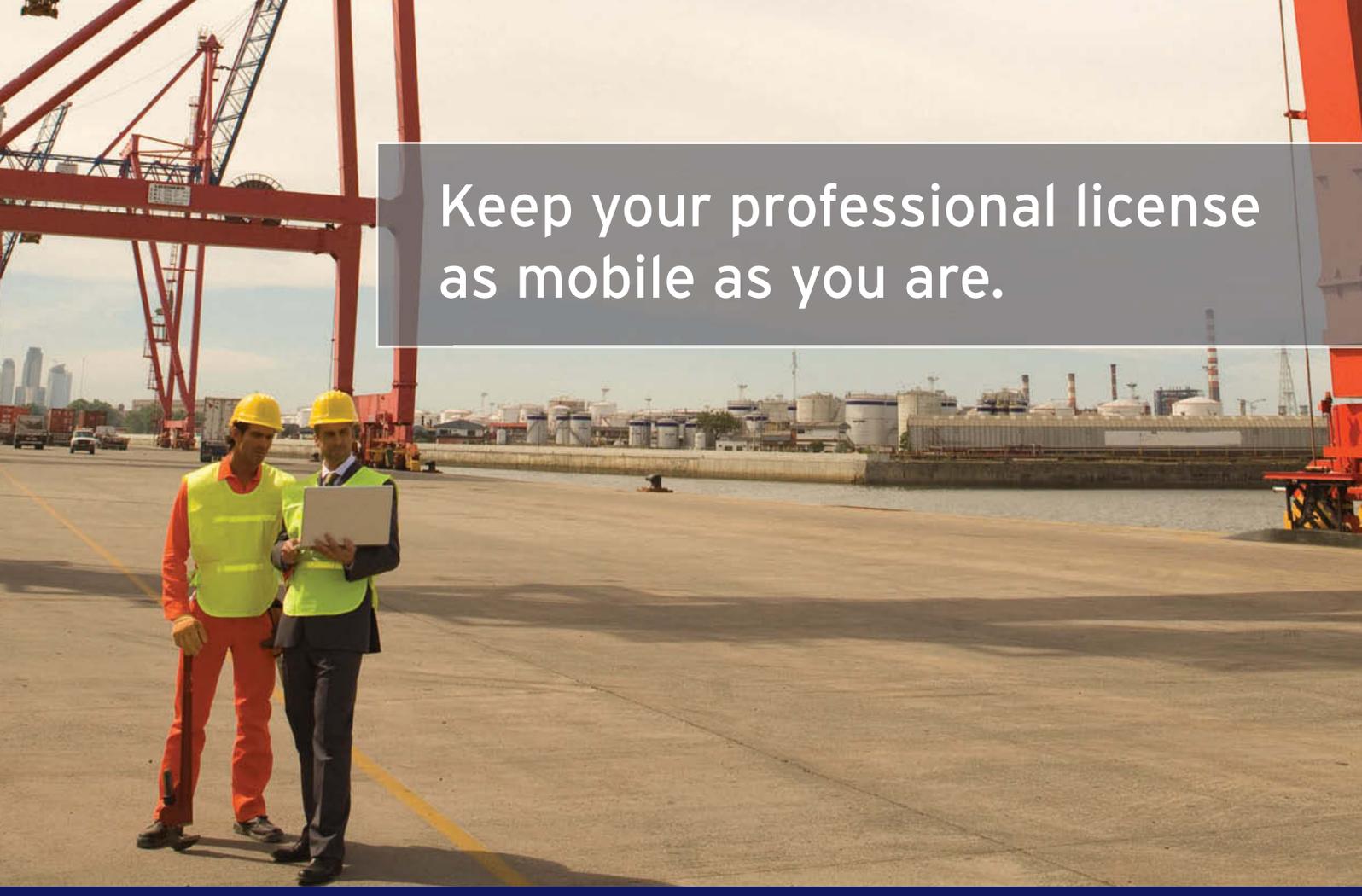


- ACEC Member Firm **Dewberry** (Fairfax, Va.), a privately held engineering consulting company, announced its acquisition of 90-plus-person **Bowyer-Singleton & Associates Inc.** (Orlando, Fla.), also an ACEC Member Firm. Bowyer-Singleton provides engineering,

Watch the M&A Takeaway video that accompanies this article, presented by Mick Morrissey, at www.morrisseygoodale.com/ACECMergers/JulyAugust2013.



Mick Morrissey is managing principal of Morrissey Goodale LLC—a strategy, M&A and human capital solutions firm serving the A/E/C industry. He can be reached at mmorrissey@morrisseygoodale.com.



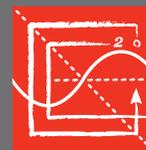
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*Potential 12% savings on annual premiums for businesses with 2-99 employees, as compared to UnitedHealthcare products sold outside the ACEC Life/Health Trust.

**Network statistic based on GeoAccess information and UnitedHealthcare standard network access mileage criteria, 2010.

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