MARCH/APRIL 2013

ENGINEERING INC.

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SENATOR LISA MURKOWSKI Offers a New Vision For U.S. Energy Policy

>> Cloud Computing And Your Firm

>> Maintaining Healthy Cash Flow

>> Record-Setting Year For ACEC/PAC

ACEC
American Council of Engineering Companies
100 Years of Excellence

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JAMES KEGLEY

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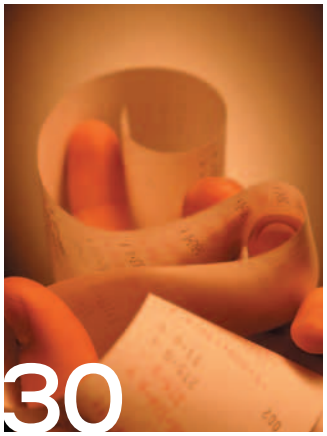

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100 Years of Excellence

COVER: JAMES KEGLEY

Engineering Inc. promotes the advocacy and business interests of ACEC by offering news, legislative analysis and business practice information to member firms, clients, opinion leaders and policy makers.

From ACEC to You

This Year Is Critical For the Engineering Industry

Numerous legislative issues affecting the business climate for all members are at stake in Congress throughout 2013—and many are coming to a head during ACEC's upcoming Annual Convention and Legislative Summit, April 21–24, in Washington, D.C.

The contentious negotiations that led to the "fiscal cliff" tax deal in January are a preview of what we face, and why we need member engagement both at the grass roots and on Capitol Hill during our Annual Convention.

ACEC's citizen lobbyists must defend critical infrastructure programs against budget-cutting pressures, as well as push back against continued in-sourcing efforts by public employee unions.

During the last Congress, we achieved several significant legislative victories, including a new two-year surface transportation program, a new four-year airports construction program, the defeat of several regulatory burdens, and stemming the threat of in-sourcing. This could not have been achieved without your critical involvement.

This year's advocacy program seeks to protect infrastructure funding, achieve new financing mechanisms for both water and transportation, and promote new energy initiatives.

This issue of *Engineering Inc.* takes a close look at U.S. energy policy—through the eyes of Senator Lisa Murkowski, the senior Republican on the Senate Energy and Natural Resources Committee.

Also included is a report on how ACEC/PAC achieved another record-setting year, tips on maintaining a healthy cash flow despite the uncertain business environment, and pointers on whether cloud computing is right for your firm.

See you at the Annual Convention. Your voice is needed now more than ever.

Ted C. Williams
ACEC Chairman

David A. Raymond
ACEC President & CEO

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BY GERRY DONOHUE

U.S. Pipeline Industry: From Bust to Boom

Five years ago, the U.S. pipeline industry couldn't see any light at the end of the tunnel.

Domestic natural gas and oil reserves were dwindling and high drilling costs were making U.S. suppliers uncompetitive with growing foreign imports. The pipeline network was established and there was little demand for new infrastructure.

That was before the combined technologies of horizontal drilling and hydraulic fracturing made the production of huge reserves of natural gas and oil trapped in shale formations plentiful and economical.

Domestic natural gas production has increased fivefold in the past five years.

"It's nothing short of phenomenal," says Greg Hopper, managing director for the natural gas and power fuels group at Black & Veatch Management Consulting. "We are actually set to become an exporter on a significant scale."

The 760,000 barrels-per-day jump in U.S. oil production in 2012 marked the largest ever year-over-year increase. And, according to the International Energy Agency, the United States will be the world's largest oil producer within the next five years.

Building Capacity

Bust has turned to boom for the pipeline industry because most of these newly productive natural gas, oil and natural gas liquid (NGL) reserves are in remote regions that have no or limited resource production infrastructure and are far from refining hubs, such as the Bakken shale oil fields in North Dakota. Rather than merely needing to add to the pipeline grid, these resource finds require building an entirely new grid, experts say.

According to *North American Midstream Infrastructure,* a report by global energy, environment and infrastructure consultant ICF International, through 2035, 16,400 miles of mainline gas pipeline and 165,000 miles of gathering gas line will be built between 2011 and 2020. From 2021 to 2035, an additional 19,200 miles of mainline and 249,000 miles of gathering line will be added. Through 2035, the oil and NGL industries will require 30,000 miles of new pipeline.

ICF International estimates that total expenditures for natural gas mainlines, laterals, gathering lines and compression will total $82.1 billion through 2020 and another $96.2 billion between 2021 and 2035. Oil and NGL pipeline transmission expenditures will be $31.9 billion through 2020 and $14 billion between 2021 and 2035.

In addition, the natural gas industry will need to add 240 new processing plants—at a cost of $20 billion—and 600 billion cubic feet of new storage capacity.

Slowing Growth

Two challenges to this growth scenario are low natural gas prices and/or regulation.

The current price of less than $4 per million British thermal units (MMBTUs), says Paul Ziff, CEO of Ziff Energy Group, "is far below the full cycle cost to replace gas that is produced and sold." For many wells, he says, the cash costs "exceed the gas price received, resulting in negative cash flow."

ICF International says gas prices between $6 and $7 per MMBTUs would sufficiently encourage gas production without curtailing demand.

A distorted supply-demand curve is keeping natural gas prices down. Production is increasing at a rate of 15 percent to 20 percent annually as suppliers tap new wells and improve technologies for recovering gas from existing ones.

Concurrently, says Black & Veatch's Hopper, "we've had three years of a tough economy, with curbed consump-

Cost of Infrastructure Added (Billions)

	2011-2020	2021-2035	ANNUAL AVERAGE EXPENDITURES
Gas Transmission Mainline	$46.2	$51.5	$3.9
Laterals to/from Power Plants Gas Storage and Processing Plants	$14.0	$15.8	$1.2
Gathering Line	$16.3	$25.4	$1.7
Gas Pipeline	$5.6	$3.5	$0.3
Oil Transmission	$19.6	$11.8	$1.3
NGL Transmission	$12.3	$2.2	$0.6

Source: ICF International

Summary of Incremental Infrastructure Costs

	2011-2020	2021-2035	ANNUAL AVERAGE EXPENDITURES (BILLIONS)
Inter-regional Pipeline (Bcfd)	29	14	$1.7
Miles of Transmission Mainline (1000s)	16.4	19.2	$1.4
Miles of Laterals to/from Power Plants Storage Fields and Procession Plants (1000s)	6.6	7.3	$0.6
Miles of Gathering Line (1000s)	165	349	$16.5
Compression for Pipelines (1000 HP)	3,039	1,907	$197

Source: ICF International

tion growth and increased conservation."

In the long run, however, today's low prices may prove to be a boon for the industry, because they are leading many electrical utilities to switch to natural gas as the power source for their generating plants.

"In my view, gas will be the power generation source of the future," says Ziff. He says that while there will be "a 1.5 percent per year increase in North America power generation in the next decade...gas usage for power generation will increase by 4.2 percent per year."

Over the next 25 years, according to ICF International, about 75 percent of the incremental demand growth for natural gas will be in the power sector, and gas consumption will more than double.

NEIL BEER/GETTY IMAGES

The Challenge of Regulation

In its annual survey of participants in the natural gas industry, Black & Veatch found that "there is strong agreement among respondents that regulatory compliance will become more stringent, particularly as it relates to the use of hydraulic fracturing in the production of shale gas."

The environmental concerns over hydraulic fracturing include both the immediate impacts to land and water, seismic activity around wells and the long-term effect of leaked methane on global warming.

Because these technologies are relatively new and are developing so fast, regulators are still playing catch-up. Over the next few years, as they get a better handle on their impact, industry watchers say a more defined regulatory environment will take shape.

Bright Future

The market is expanding at an astounding pace.

In August 2012, for example, the U.S. Geological Survey added 291 trillion cubic feet of natural gas, 32 billion barrels of oil and 10 billion barrels of NGL to its estimates of the U.S. potential undiscovered conventional reserve—a remarkable 10 percent increase.

At the same time, says Hopper, the industry is finding new and better ways to tap those reserves. "It's reasonable to think that technological innovation will continue. The degree to which people are learning how to do this is amazing. We're very bullish on the future."

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

PATRICK CASHIN/AP PHOTO

Congress Clears ACEC-Backed Hurricane Sandy Relief Package

In what may be one of the biggest infrastructure initiatives to clear Congress this year, the U.S. House and Senate agreed to a $50 billion package for emergency assistance and reconstruction projects for communities devastated by Hurricane Sandy.

ACEC lobbied in support of the package, which includes significant funding to repair and restore roads, transit systems, and water and other critical infrastructure damaged by the storm. Much of the funding is directed to projects that enhance the resiliency of the region's infrastructure.

"Not only does investing in resilience save lives, it saves money, as built-in resilience is always lower than the cost of response, recovery and rebuilding," said ACEC President Dave Raymond in a letter to lawmakers.

Neb. Gov. Signs Off on Keystone XL Pipeline; White House Decision Expected in April

Nebraska Gov. Dave Heineman approved the proposed new route for the Keystone XL pipeline. The decision puts the fate of the 1,800-mile pipeline connecting tar sands in Alberta, Canada, to U.S. refineries and distribution centers in the hands of the Obama administration, which has indicated that a final decision is expected in April.

ACEC strongly supports the construction of the Keystone XL pipeline and is lobbying administration officials to approve it.

LARIS KARKLIS/GETTY IMAGES

Gov. Heineman said that the TransCanada Corp., which is building the pipeline, has taken numerous steps to improve the safety of the pipeline as it crosses his state, including burying the line and installing remote sensors and shutdown valves to speed reaction time in the event of a spill.

Support for LNG Exports Grows in Congress

Reps. Bill Johnson (R-Ohio) and Tim Ryan (D-Ohio) sent a bipartisan letter cosigned by 109 House members to Energy Secretary Steven Chu in January urging him to open America's vast reserves of natural gas to the global energy marketplace.

"It's estimated that America could see tens of thousands of new jobs by opening our vast supply of natural gas to the world," said Johnson. "These are the kinds of investments needed to ensure that our energy future is stable—and our workers find good paying jobs," added Ryan.

CLIFF OWEN/AP PHOTO

Rep. Bill Johnson (R-Ohio)

BILL CLARK/GETTY IMAGES

Rep. Tim Ryan (D-Ohio)

Natural gas development and export are primary components of ACEC's "all of the above" energy initiative in Congress.

This effort follows a recent study released by the Energy Department, *Macroeconomic Impacts of LNG Exports from the United States*, which found that increased exports of liquefied natural gas (LNG) would be good for the U.S. economy and would not tie domestic prices to higher rates paid overseas.

Senator Lisa Murkowski (R-Alaska), the ranking member on the Senate Energy and Natural Resources Committee, hailed the strong economic findings. "The administration should be commended for commissioning such a comprehensive and transparent review of the potential impacts of exporting natural gas," Murkowski said. "It's clear from the study that exporting LNG would be beneficial to the U.S. economy, and the greater the level of exports, the greater the benefit." (For more from Murkowski, see our exclusive interview with the senator on page 8.)

Water Project Funding Bills Prepared; New Bond Financing, QBS Expansion Proposed

Congressman Tim Bishop (D-N.Y.), the senior Democrat on the House Water Resources and Environment Subcommittee, plans to reintroduce legislation that will reauthorize and expand the State Revolving Fund (SRF) program for new water and wastewater projects, as well as create a new financing mechanism to aid communities in addressing water needs.

JOCELYN AUGUSTINO/AP PHOTO

Rep. Tim Bishop (D-N.Y.)

The ACEC-backed bill is expected to authorize nearly $14 billion over five years for the Clean Water Act SRF program. The Bishop bill is also expected to require projects funded under the SRF program to use Qualifications-Based Selection (QBS), which would help expand the reach of QBS into local communities.

The legislation would also include a Water Infrastructure Finance and Innovation Act (WIFIA) provision, which would provide low-interest loans and loan guarantees from the U.S. Treasury to local governments for water infrastructure projects. The WIFIA proposal supplements the state capitalization grant for the revolving loan program. The scope of the program and its existing eligibilities would remain intact, and states would be able to borrow directly or obtain loan guarantees from the U.S. Treasury.

BILL CLARK/GETTY IMAGES

Rep. Bill Pascrell (D-N.J.)

In related water financing news, Congressman Bill Pascrell (D-N.J.) is preparing to reintroduce legislation to make it easier for states and localities to use tax-exempt private activity bonds for water and wastewater projects.

The ACEC-supported bill would waive the state volume cap on private activity bonds for water projects, significantly expanding the availability of low-cost financing for local communities. The Council worked closely with Pascrell, who has championed this provision to make it easier to fund critical water infrastructure needs.

Wall Street experts and the Environmental Protection Agency have projected that this simple change in the tax code could make available as much as $6 billion annually for U.S. water infrastructure replacement needs. The cost to the federal government would be significantly less: Recent Joint Tax Commission estimates put the bill's price tag at about $372 million over the next 10 years.

ISSUES ON THE MOVE	WHAT'S NEXT
Keystone XL pipeline	White House decision in April
New water financing initiatives	House action in the spring
Immigration reform	Senate action in late spring

ACEC Working With Congress on Key Immigration Reform Provisions

Bipartisan support for comprehensive immigration reform in Congress could also aid engineering and other industries looking to hire science, technology, engineering and mathematics, or STEM, professionals.

ACEC is working with business allies to improve the visa process for high-skilled foreign workers. The Council supports legislation introduced by Sens. Orrin Hatch (R-Utah), Amy Klobuchar (D-Minn.), Marco Rubio (R-Fla.) and Chris Coons (D-Del.) that would increase the number of H-1B visas and green cards available for engineers and other STEM professionals.

The provisions of the Hatch bill are expected to be included in a broader immigration reform package being negotiated between Congress and the Obama administration.

JOE RAEDLE/GETTY IMAGES

For More News

For weekly legislative news, visit ACEC's *Last Word* online at www.acec.org.

A Fresh Look at U.S. Energy

Since being elected in 2002, U.S. Senator Lisa Murkowski (R-Alaska) has been a strong advocate for energy, health care, education, military/veterans' affairs and infrastructure development. She is the senior Republican on the Senate Energy and Natural Resources Committee, and also serves on the Senate Appropriations Committee. In this exclusive interview with *Engineering Inc.*, the senator talks about U.S. energy policy, the future of the Keystone XL Pipeline and the need for major upgrades to U.S. energy infrastructure. >>

Policy

Senator Lisa Murkowski envisions a nation where energy is affordable and abundant

JAMES KEGLEY

ACEC: Senator, you have talked about drafting a comprehensive energy bill that will focus on the goals of affordability, environmental protection and energy security, reflecting the need for "reimagining federal energy policy." Can you expand on what this new paradigm should look like, including the proper balance between traditional sources (oil, natural gas, coal, nuclear) and alternatives?

Sen. Lisa Murkowski: The goal is to promote energy that is affordable and abundant. Energy with those characteristics—responsibly developed and responsibly deployed—is good for the economy and our international competitiveness.

Increasing our domestic production of conventional energy resources is certainly part of the answer, but we're also looking at all aspects of energy policy, including renewable and alternative energy. What works and what doesn't? The circumstances of the economy and the federal budget require us to determine no less.

> "Too often the energy debate winds up mired in politics. We want to move beyond straw-man arguments and take a fact-based approach to setting policy."

We are also looking for opportunities to reform or consolidate existing programs, particularly to eliminate duplication. For example, GAO reported that there are 94 separate initiatives to "foster green building" being carried out by 11 federal agencies. Are all of those programs unique?

Very simply, this is about taking an honest inventory of America's energy resources, challenges and needs and devising or renewing policies that enable affordable and abundant energy where and when we need it.

Too often the energy debate winds up mired in politics. We want to move beyond straw-man arguments and take a fact-based approach to setting policy.

ACEC: ACEC strongly supports the Keystone XL Pipeline project—what's being done to secure its approval?

Murkowski: Congress passed a law late last year forcing the president to make a decision on Keystone, and the president said, "No." The political and public backlash to that announcement, however, forced the administration to characterize it as a delay rather than a rejection.

Keystone is of major importance to our energy security and has undergone more scrutiny than any comparable piece of infrastructure, except perhaps the Trans-Alaska Pipeline System. Depending on the makeup of the next Congress, we could have another shot at legislating Keystone's approval, and I believe that international pressure from Canada—our closest ally and trade partner—will compound with domestic needs in coming years to force the issue. Approving the Keystone expansion remains a top priority of mine.

ACEC: The energy debate often centers on the balance between the need for greater energy self-sufficiency and environmental protection. What in your view is the proper way to manage that balance?

Murkowski: My focus has been on a truly all-of-the-above energy policy, which includes environmental protection, the gradual de-carbonization of the economy and limited government investment in research for breakthrough technologies. But I'm also a realist. I don't think the transition to cleaner resources will happen overnight. We need to increase production of all available domestic energy resources, including traditional sources like oil and natural gas, to ensure that we have an abundant and affordable supply of energy to fuel our economy.

Our best strategy is to pursue an energy policy that will protect the economy, federal budget and environment all at the same time. I often say that policy should have five primary goals: We want our energy to be abundant, affordable, clean, diverse and domestic.

The greatest thing we can do for the economy is to reduce the cost of energy, cutting both the cost of living and the cost of doing business in America. Lower energy costs are an economic stimulus—affordable energy is a priority for our families and businesses. There's also a jobs creation component to energy production that shouldn't be overlooked.

The deficit debate in Washington has raised legitimate questions about how we pay for investments in renewable energy and related infrastructure. At the federal level, one idea that I think hasn't gotten enough attention is developing the conventional energy resources we rely on today to pay for both investments into new technologies and deficit reduction.

The federal government generates tens of billions of dollars in revenue each year from resource extraction. And even a small portion of that money could have a positive impact for the development and adoption of cleaner and renewable energy.

If we're smart enough to wall off a portion of those revenues for clean energy, that will finally provide the makings of a legitimate long-term energy policy—a policy where the substantial government revenues from fossil fuels are used to speed up the development of their replacements. Our best energy policy will not rely on new mandates or higher taxes—it should instead have fossil fuels fund the future clean energy economy.

ACEC: In addition to traditional energy sources, America's engineering companies work with government and private-sector clients on a broad range of renewable energy and energy-efficiency projects. What role do you envision for renewable sources and energy efficiency in the nation's overall energy policy?

Murkowski: I see the mission of the Energy Committee as finding new and innovative ways to encourage cheaper energy, cleaner energy and more-secure energy. Our nation is blessed with a wealth of natural resources—and for me, a diversity of energy sources provides the best proving ground and insurance against overreliance on any one source, and a healthy economy provides the best demand for the cleanest sources available.

Improving how we use energy is an obvious starting place. Energy efficiency is often called "low-hanging fruit" for good reason. Unfortunately, too often efficiency gets passed over for more splashy—and more expensive—alternatives.

I recognize that affordability is not the only goal and that we want clean energy, as well. Federal mandates are just one of many tools at our disposal to spur on renewable resources—and, as it turns out, these resources can be fairly blunt instruments. In the energy space in particular, federal mandates make it difficult to account for regional differences, consumer preferences and international competitiveness.

Sen. Lisa Murkowski (center) discusses U.S. energy policy with ACEC President Dave Raymond (left) and ACEC Chairman Ted Williams.

JAMES KEGLEY

What we should remember is that we're not limited to one policy, or one option, for addressing our energy challenges. And I don't believe we should be punishing one industry to promote another. My preference is to fund energy innovation with the revenues we generate from increased domestic production of oil, gas, coal and other resources. If we plan ahead, we can develop a long-term policy that allows those resources to work themselves out of a job by paying for the commercialization of newer, cleaner alternatives—and we would protect families and businesses from added costs and burdens in the meantime.

ACEC: One of the biggest problems in meeting America's energy needs is addressing our aging energy infrastructure, particularly in the area of transmission. What can we do at the federal level to improve and modernize our energy grid?

Murkowski: I'm sure I don't need to tell ACEC that our nation's infrastructure has not been renewed at the rate that it is aging. This is certainly true of energy infrastructure across the board. We are now living on prudent infrastructure investments made a generation ago.

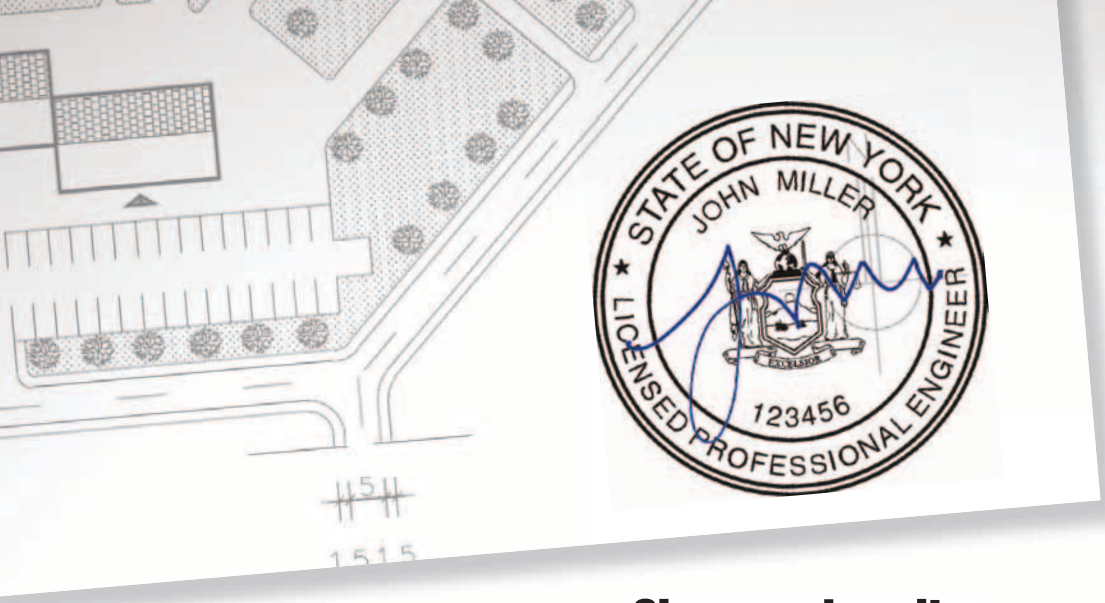
Transmission infrastructure, such as electric transmission lines and natural gas and oil pipelines, must be upgraded and improved. Proponents of transmission—and I include myself among them—have done an insufficient job of persuading the public of the benefits of a more modern and robust transmission system for strengthening the reliability of service and diversifying the sources of supply. If this case could be more forcefully made, there would be a greater chance that transmission projects could overcome the opposition they almost always face.

The public must be convinced that the reliability or economics of their energy supply will be served by new or upgraded transmission. Otherwise, nearby landowners, environmental groups, customer groups and even other energy companies whose competitive position may be affected when regional lines are upgraded or built will oppose new transmission projects strenuously in courts or commissions.

Electric transmission faces additional financial problems. The Federal Energy Regulatory Commission is now reviewing the transmission rate incentives Congress enacted as part of the 2005 Energy Policy Act, which were designed to spur investment in transmission infrastructure. In many states and regions, state regulators have not been convinced that a stronger transmission system is warranted. They must be persuaded to allow rates that will support new investment.

Electric transmission must also overcome arguments that efficiency and demand response reduce or eliminate the need for transmission investment. Although efficiency and demand response have an important role to play, by their nature they can't substitute for infrastructure—at least, they can't do so indefinitely. Of course, demand for electricity has been suppressed by the poor performance of our economy—but let's hope that situation changes soon. Finally, when transmission infrastructure projects have a strong business case, they almost always face siting difficulties.

We need to reform federal siting laws that apply to transmission projects, but we must respect the rights of states and localities. ■



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Another Record-Setting Year for ACEC/PAC

By Bob Violino

Council political program remains one of the nation's strongest in achieving advocacy goals

ACEC members continued their remarkable support of ACEC/PAC in 2012, collecting $732,000 in contributions—the best fundraising year ever—to advance critical industry issues, and to elect pro-business, pro-engineering candidates.

ACEC/PAC now ranks in the top 3 percent among all federal trade association PACs based on yearly receipts. More State Organizations (32) also reached their fundraising goals last year than in either 2011 or 2010.

ACEC/PAC leaders hope to continue the momentum into 2013, as many states plan to become even more aggressive in their PAC emphasis.

A prime example of a successful ACEC/PAC effort is ACEC/Illinois, which continually has been an ACEC/PAC fundraising leader.

"Our program has been so successful because we have worked very hard to develop a culture of giving to and working for ACEC/PAC, and this culture starts at the top of our membership organization," says Philip Houser, principal at Farnsworth Group, Inc., in Bloomington, Ill., and the national PAC chairman in addition to co-PAC champion for Illinois.

"Any successful endeavor has to have buy-in from those involved, and that starts with our ACEC/PAC co-champions and our executive director and flows down to our board of directors," Houser says.

Houser, along with fellow co-PAC champion Darcie Gabrisko, vice president of Strand Associates, Inc., in Joliet, convinced each ACEC/Illinois board member to become Millennium Club members and help with fundraising calls.

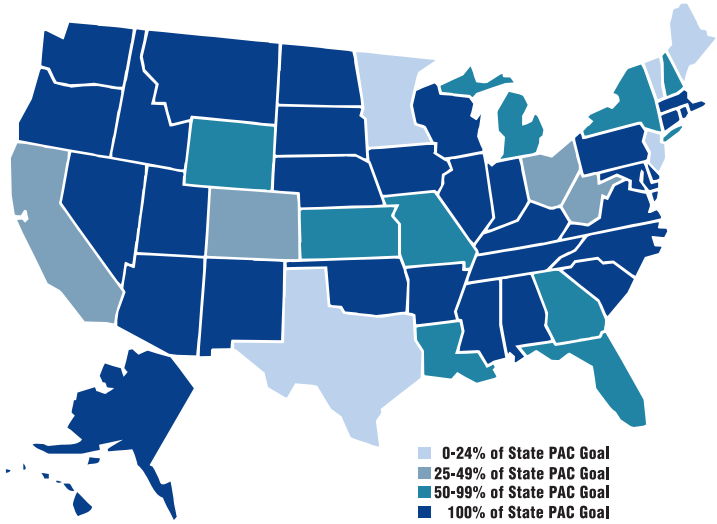
"The board members are leaders of our engineering community; they understand the importance and are supportive of the PAC," adds Gabrisko. "Annually, our board members each make many calls to our Member Firm principals and committee members and personally ask them to participate in the PAC. We have had great success with this approach to meeting our goals."

For years, ACEC/Illinois waited until December each year to make a flurry of calls to raise money for ACEC/PAC, Houser adds, "but we have been able to gradually get our 15 board members to make their annual Millennium Club contributions in March or April, and we have finished our efforts to move our telephone campaign to October in order to finish prior to the fall elections."

This helps ensure ACEC has the necessary money available during the spring and summer, Houser says. "It also helps us in our fundraising efforts to have the October phone calls right ahead of elections, when member interest is high" he says.

"As we move forward, our president and president-elect will serve as our PAC co-champions and our entire board will

2012 ACEC/PAC State-by-State Numbers




Philip Beer


Philip Houser


Franklyn Wilson

serve as the committee," Gabrisko says. "This will ensure we always have two excellent leaders for this very important commitment."

ACEC/Indiana can also boast a successful ACEC/PAC history in meeting its fundraising goal every year since 2003. Fundraising success was first realized years ago when leaders expanded the base of contributors in the state, says Philip Beer, vice president of business development at USI Consultants, Inc., in Indianapolis. Beer, who is the national PAC vice chairman and PAC champion for Indiana, credits Stephen Goddard, a former ACEC chairman, with this strategy.

"The idea was simple: We have 80 or so firms in Indiana; let's ask each owner/partner within these firms to contribute $100 toward ACEC/PAC, and we will meet our goal," Beer says. Since then, he says, Indiana has continued with this idea, steadily increasing the number of contributors each year and gaining the support of the ACEC/Indiana board of directors.

ACEC/PAC raffles have also helped Indiana by providing an incentive; those who contribute $200 for a ticket have the opportunity to win $10,000.

Buy-in by ACEC/Indiana's board has been critical to the state's success, Beer says. "Right after the start of a new year, each board member is given a personal fundraising goal by Indiana's PAC champion, who includes past and potential new contributors," he says. "As the year progresses, each board member is held accountable to achieve their goal during monthly meetings. Without full buy-in by Indiana leadership, we could not have achieved our success. We have a plan and it works. And we continue to look for improvements each year."

> "Without full buy-in by Indiana leadership, we could not have achieved our success."
>
> PHILIP BEER,
> VICE PRESIDENT,
> USI CONSULTANTS, INC.

Another State Organization that has consistently met its goal—for the past eight years—is ACEC/South Carolina. The state's efforts have been successful in large part because organizers begin soliciting contributions early in the year, in January and February, as soon as the sweepstakes flyer for the spring meeting is available, says Peter Strub, eastern regional vice president at TranSystems Corporation in Greenville, S.C., and a member of ACEC's Executive Committee and PAC champion for South Carolina.

Strub says ACEC/South Carolina's fundraising effort focuses on getting 100 percent participation from officers and the board "to the extent that we make it an expectation when the nominating committee solicits new names for officer and board positions.

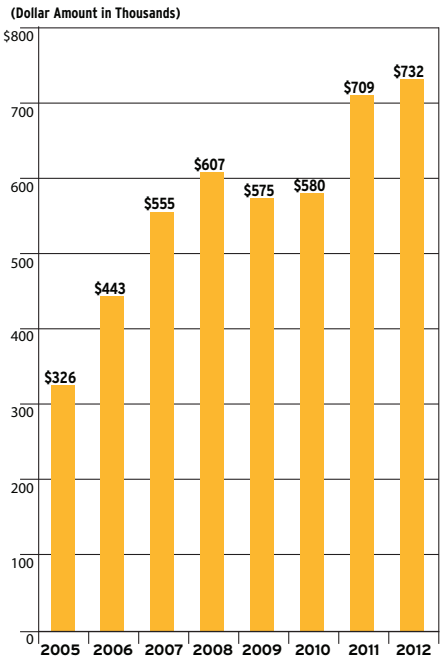
"We also focus on the Millennium-level contributors and set a goal each year to at least meet the same number and exceed the previous year's number," Strub says. Additional efforts include identifying previous year contributors and making sure they are contacted to contribute.

New individuals in Member Firms are also identified to "set the hook" and get younger members contributing, Strub says. "With this group, we focus on why we should contribute and what it means to our firms through the successes we have on the government advocacy efforts," he says. "We try to convince them that contributing to ACEC/PAC is the cost of doing business, just like renewing an individual PE license. We do this all by contacting contributors via email and with personal telephone contacts."

Several states, such as ACEC/Virginia, endured fundraising struggles in the past, but recently have turned the corner for the better. The state made its goal in both 2011 and 2012.

"We started making calls earlier, with the aim of wrapping up the fundraising before the elections," says Franklyn Wilson, president of McKinney & Company in Ashland, Va., and PAC champion for Virginia. "In the future, we need to start the process early and to keep the pressure on and not let up. Hopefully we will have the same team making calls again for 2013. They all know the ropes and have gotten to know the members on their lists a bit better. Also, of course, we all hope that the economy improves in 2013. That will make a difference."

ACEC/PAC Fundraising 2005–12



ACEC/Florida's fundraising efforts also have shown improvement. The state didn't do anything particularly different in 2012, says Andrew Cummings, senior vice president of Connelly & Wicker, Inc., in Jacksonville, Fla., and PAC champion for the Sunshine State. "But I would attribute the year-over-year improvement to a strategic plan started in 2010," he says. "Our Florida board made a commitment to support ACEC/PAC, and we developed a strategy to significantly increase our participation."

This strategy included full board member and committee chair participation, Millennium member recruitment and the development of an active ACEC/Florida PAC committee, whose goal was to solicit donations from the largest 50 Member Firms in the state, Cummings says.

"The culture has changed concerning support for ACEC/PAC in Florida," Cummings says. "It started with the Florida board's commitment. The focus on infrastructure investment by Congress and the desire of Member Firms to have a voice on how this investment is funded has also driven this culture change." ■

Bob Violino is a business and technology writer based in Massapequa Park, N.Y.

ESOP Tax Benefits Increase in Value

by Larry Goldberg

The substantial increase in tax rates for sales of businesses is causing many business owners to take a new look at an old benefit – the tax-deferred ESOP sale. Section 1042 of the Internal Revenue Code ("IRC") allows business owners to sell stock in their companies to an ESOP and defer federal, and often state, tax on the transaction. Due to recent changes in capital gains rates, the IRC 1042 election is now more valuable than ever.

A 1042 qualified transaction can be accomplished by having an ESOP purchase a minority or a controlling position in the company. Many firms in the engineering and professional services industry have found an ESOP's purchase of a substantial minority position in the firm to be a valuable part of an ownership succession strategy.

Higher Capital Gains Rates

For 2013, the federal rate on capital gains has increased from 15% to 20%. On top of that increase, the new 3.8% Medicare surtax on net investment income applies to the sale of a business, creating a combined federal capital gains tax rate of 23.8%.

In California, voters recently approved Proposition 30, which increases the rate on incomes above $1 million from 10.3% to 13.3%. This increase is retroactively effective to January 1, 2012.

As a result, for an owner of $10 million of stock in a company with little or no tax basis, the combined taxes on the sale in California would be $3.71 million. Even assuming a state with income tax rates of half that of California, the total tax bill would be $3,045,000. For a taxpayer living in a state with no income taxes (such as Texas), the new federal changes still result in a tax bill with an extra $880,000 of tax on the sale.

"Tax rates up to 37% are causing a spike in interest for 1042 tax-deferred ESOP transactions."
- Lynn DuBois, ESOP Law Group

Transaction Amount	Federal Capital Gains Rate	State Tax Rate (rates vary from 0% - 13.3%)	Total Tax on Sale
$10,000,000	23.8%	13.3%	37.1%
Non-ESOP sale taxes due (California)	$2,380,000	$1,330,000	$3,710,000
Non-ESOP sale taxes due (Texas)	$2,380,000	$0	$2,380,000
ESOP IRC 1042 sale taxes due	$0	$0	$0

Note: This analysis makes a simplifying assumption that the state tax is not deductible for federal income tax purposes because of the phase out for high-income individuals. Even if state taxes are deductible, the benefit of this deduction may be offset in part or in full by alternative minimum taxes for many high income individuals.

WHO CAN QUALIFY FOR 1042 TREATMENT?

To qualify for the IRC 1042 benefit:

1. The selling shareholder must:

- Qualify for long-term capital gains treatment for the transaction
- Have at least a 3-year holding period in the stock (determined under regular tax holding rules)
- Be an individual, partnership, LLC, trust, S corporation, but not a C corporation
- Reinvest the proceeds in Qualified Replacement Property (QRP) within 12 months after the ESOP stock purchase (or during the 3 month period preceding the ESOP stock purchase)

2. The Company sponsoring the ESOP must:

- Be a C corporation at the time the ESOP acquires stock (S corporations can convert)
- Not have publicly traded securities

3. The ESOP must:

- Own at least 30% of the company's stock immediately following the ESOP's purchase
- Hold the stock for at least 3 years following the purchase, otherwise the company incurs an excise tax of 10% on the proceeds from the disposition of the ESOP stock (exceptions for some tax free reorganizations)

4. QRP:

- Includes stocks or bonds of domestic operating corporations
- Does not include foreign or passive investments such as mutual funds, certificates of deposits, securities issued by foreign corporations, securities issued by a government or agency, such as treasury bonds or municipal bonds

5. Additional rules:

- Section 83 stock, (stock acquired by an individual in connection with the performance of services) or under employee stock option programs does not qualify
- Seller, certain family members, and 25+% shareholders may be excluded from the ESOP

6. QRP held until death receives a "stepped up" basis under current tax laws:

- Deferred tax liability is extinguished at death
- QRP can be leveraged during the owners' lifetime

"While clearly not appropriate for every firm, we have seen ESOPs work very well as an ownership transition vehicle for AE companies over the years. In fact, no other segment has adopted this form of ownership to a greater degree than the AE industry. In addition, the trend toward ESOPs in this market is expected to accelerate in the coming years due to the number of retiring baby boomers, higher valuations coming out of the recession, and increasing tax rates at both the individual and corporate level."
- Chris Staloch, Chartwell Capital Solutions

Minority Interest Transactions

Many engineering firms need to transition ownership of a minority position in the firm, but are not interested in selling the entire company to a third party. An ESOP can be a friendly and tax efficient purchaser of a minority interest. First, unlike a private equity firm or strategic buyer, the ESOP can be designed from the outset to engage in minority interest transactions. Second, if the firm is a C corporation, the transaction can be combined with the 1042 tax benefit described earlier, providing additional incentive to the selling shareholders. Finally, if the firm is an S corporation, it will find that its tax-free minority shareholder, the ESOP trust, is not required to pay income taxes on its share of the firm's taxable earnings. That means the ESOP can use its share of tax distributions (dividends) to retire debt (on a pre-tax basis) incurred to acquire its minority share, or can use the cash to purchase additional shares as they become available. In some instances, the initial minority purchase is a stepping stone to the firm eventually becoming a 100% ESOP owned S corporation, whereby all of the Company's earnings are sheltered from income taxes.

"ESOPs have historically been a valuable ownership transition vehicle for many of our clients. There are benefits to this tax efficient transition tool and now with the increased tax rates in 2013, an ESOP as a potential ownership transition solution is even more attractive for the right companies."
- Jon Zeiler, Crowe Horwath LLP

Summary

For qualified shareholders selling to an ESOP, the tax savings can range from 23.8% to 37%. In addition, the ESOP can be a successful way to handle minority owner transitions.

These topics and much more will be explored at the upcoming ACEC 2013 Annual Convention in Washington D.C. as part of the Tuesday CFO Council program, sponsored by Chartwell, The ESOP Law Group, and Crowe Horwath. Please contact Leo Hoch at 202.682.4341 or lhoch@acec.org for further information on the program and to RSVP for the CFO Council.

Larry Goldberg is a Partner with ESOP Law Group and is based in San Francisco, California.

Protecting Your Interests

By Maureen Conley

Highlights From ACEC Coalitions

Council of American Structural Engineers (CASE)

Member Firms: 161
Mission: to promote best practices and risk management services for structural engineers

One of the most pressing issues facing structural engineers is a nationwide push to introduce structural engineer licensing requirements, explains CASE Chair John Mercer, president of Mercer Engineering, P.C., in Minot, N.D. Some states already have such requirements, but many do not. CASE is working to ensure sensible licensure requirements and an equitable transition process for "older" engineers—those structural engineers who have spent the majority of their careers practicing as licensed professionals.

At the same time, CASE wants to make sure that licensure requirements do not supplant the focus on risk management that is essential to good structural engineering business practice. CASE is also promoting its *Ten Foundations of Risk Management*—elements that range from a firm's culture to communication practices to properly defining scope and negotiating clear and fair contracts. To maintain awareness of these practices, CASE offers a suite of new and existing resources, including guidelines, generic contracts and productivity tools. The coalition is broadening its reach by networking at the local level and making presentations at state-level Member Organization meetings.

Design Professionals Coalition (DPC)

Member Firms: 54
Mission: to promote the business interests of ACEC's large firms

Protecting the opportunity for firms of all sizes to compete for government contracts was the original reason for DPC's creation and remains our core objective today," says DPC Chairman Anthony Bartolomeo, president and CEO of Pennoni Associates in Philadelphia. Today those contracting opportunities face new challenges—from funding constraints on public projects to a continued push to "in-source," or keep the work within the government. As DPC works to educate legislators, the need to prevent the government from competing with private design firms is at the forefront, he says.

To confront these challenges, Bartolomeo says DPC is working within ACEC and other like-minded organizations to focus legislators on the importance of providing long-term funding for important infrastructure projects. A major push this year will be reauthorization of funding for wastewater infrastructure under the Clean Water Act. Despite legislative activity in the past two Congresses, the Clean Water Act is long overdue for reauthorization. In addition, Congress is expected to begin work this year on funding a long-term transportation bill. MAP-21 provided funding for surface transportation programs for fiscal years 2013 and 2014—and expires Sept. 30, 2014.

Small Firm Council (SFC)

Member Firms: 138
Mission: to help engineering firms having fewer than 50 employees to run their businesses more profitably

In contrast to discipline-specific ACEC coalitions, SFC focuses on the business of running a small business regardless of technical discipline, says SFC Chair Gregg Hughes, principal and vice president at Palmetto Engineering and Consulting in Greenville, S.C. "If you feel like a small firm, you probably are" and could benefit from SFC membership, Hughes says.

SFC members work within ACEC and at the local level to promote the benefits of SFC. Hughes cites the "entrepreneurial myth" in urging small engineering firms to join—"just because you are a great engineer or designer, that doesn't necessarily mean you will be great at running an engineering or design business." Small firm owners wear "many hats" and must make quick decisions on contracts, per diems, bank covenants and more.

Through the provision of reading lists, training, documentation and open forums, SFC affords its members with resources and information to help them grow and protect their small firms. Compared to their large firm colleagues, small firms don't have the resources to downsize, belt-tighten and be selective on projects and clients. Small firms need to be alert to the small mistake that could put them out of business. SFC's ultimate goal is to help small firms run their businesses with greater effectiveness and agility, notes Hughes.

Council of Professional Surveyors (COPS)

Member Firms: 125
Mission: to serve the geospatial community within ACEC—including land surveyors as well as those who provide more high-tech services

In today's economy, shepherding a contracting opportunity from a request for proposals to a notice to proceed is one of engineering's most daunting challenges, says D. Ken Brown, COPS chair and director of geospatial services at Long Engineering, Inc., in Atlanta.

"Apprehension in the marketplace" can stand in the way of developing a job and getting a contract in place, he says. To position geospatial service companies to succeed, COPS works closely with ACEC's government affairs staff to ensure the voices of COPS' members are heard throughout the legislative process. This year, the focus is on a long-term transportation bill and ensuring that the necessary funding is appropriated for federal infrastructure projects.

COPS will also continue its push to provide members with products and resources to help them manage their businesses. These include white papers and "conversations" on how to successfully use the new, often-expensive equipment available to geospatial engineers. To help its members maximize returns and use limited resources wisely, COPS also provides "a sounding board for communications on investment in the new and constantly evolving world of survey equipment."

Upcoming ACEC Coalition Seminars At the 2013 Annual Convention

Washington, D.C., April 21–24

LDC
- Positioning Your Firm for Future Success In Land Development
  (10:30 a.m. – 11:45 a.m., Apr. 22)

SFC
- Navigating the Federal Credentialing Process for Small Firms
  (1:45 p.m. – 3:00 p.m., Apr. 22)

COPS
- Surveying Should Be a Profit Center of Your Business: A Panel Discussion
  (10:45 a.m. – 12:00 p.m., Apr. 23)

Land Development Coalition (LDC)

Member Firms: 35
Mission: to strengthen the business environment for Member Firms that provide professional land development services

Because land development is so sensitive to economic conditions—whether residential or commercial—land developers "took the biggest hit" of all the engineering disciplines during the recent recession, says LDC Chair Ed Parrone, president and CEO of Parrone Engineering of East Rochester, N.Y. Developers continue to be frustrated by economic uncertainties requiring government action—the debt ceiling and the "fiscal cliff," to name two—which will have a direct effect on lending institutions upon which developers rely for capital, he says. In response, LDC is working in partnership with the National Association of Home Builders and the International Council of Shopping Centers to address those challenges.

The problem is twofold. On the residential side, Parrone says the glut of inventories on the banks' books from foreclosures, combined with tighter lending rules imposed to avert mortgage defaults, continues to slow down business. So too on the commercial side, where developers need signed leases to get a shopping center bank loan but cannot get retailers to sign a lease without a building for them to occupy.

Also challenging for developers is the Environmental Protection Agency's move toward requiring more stringent pollutant removal requirements for wetlands and stormwater discharge, Parrone says, who adds that the trend appears to be toward requiring more treatment. And that, he says, "is expensive to builders, who pass those costs on to the end-user."

LDC offers best-practice manuals and other tools to help members manage business activities, with advice on issues such as quality control/quality assurance, contracting, marketing and presentation skills.

Council of American Mechanical and Electrical Engineers (CAMEE)

Member Firms: 75
Mission: to advance the business interests of Member Firms that provide services in the electrical, plumbing, mechanical and fire protection practices

CAMEE members still feel the effects of a "fluctuating economy," and while they are generally good at responding to issues as they arise, they continue to face challenges due to the economic decline, says CAMEE Chair Robin Greenleaf, president of Architectural Engineers, Inc., in Boston. CAMEE helps its members by "continuing to develop products that will help firms manage their business more effectively," she says.

In particular, when CAMEE becomes aware of specific contract issues that affect its members, it will "develop contract language to help them." CAMEE is also always on the lookout for strategic alliances with other organizations that provide insights on the technical side of mechanical and electrical engineering. That way CAMEE members can get help on technical issues, while "we can help their members with business," Greenleaf says.

CAMEE formalized its relationship with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers at ASHRAE's winter conference in January. The immediate focus is on solidifying the alliance at the state level. Technical and legislative issues "can pop up out of nowhere," so maintaining strong ties locally allows the groups to send issues "up the ladder to get some national attention," she says. The organizations also participate in each other's national conference, which provides opportunities to find common ground.

Made possible by GeoSpec Systems (Microsoft Partner) and Deltek

Sky's the Limit

By Gerry Donohue

RANDY LYHUS

Not unlike the Internet, email and the cellphone before it, cloud computing is well on its way to becoming a dominant business technology. For many engineering firms, recent developments in mobile technology and computing infrastructure make the cloud an attractive and cost-effective solution.

Just how popular is the cloud in business? In a recent survey of information technology professionals by the Internet firm Spiceworks, 62 percent reported using some type of cloud application, up from 48 percent at the beginning of 2012 and 28 percent in 2011. >>

Why more U.S. engineering firms are considering a move to cloud-based computing

5 Reasons To Move To the Cloud

Low Cost: Firms no longer have to purchase on-site servers and software. They effectively rent the equipment from a third party. And here's a tip: "From a tax perspective, cloud services are written off as an operating expense rather than a capital expense," offers Mitt Pfohl, principal at GeoSpec Systems in Denver.

Cash Flow: With its utility payment model, cloud computing offers increased control of IT costs. "In the engineering business, where there can be tremendous fluctuations based upon whether the company got a big contract or not, the pay-per-person-per-usage-per-month model offers a lot of flexibility," explains Pfohl.

Elasticity: Firms contract only for the amount of computing power they require at the moment, rather than buying additional infrastructure to accommodate what they may require in the future.

Leverage: "For smaller firms, the cloud can be a remarkably logical solution," says Ted Kempf, Microsoft's director for U.S. service industries. "Smaller clients have access to the same level of software and functionality as the bigger guys but [don't] have to worry about maintaining it."

Better IT Management: In a typical IT department, says Kempf, 60 percent to 80 percent of the time is spent keeping the system updated and up and running. Moving to the cloud frees up firm IT departments to focus on more strategic issues.

"The world is going to the cloud," says Jeff Gillis, director of Internet technology at Psomas, Inc., in Santa Ana, Calif. "The technology is continually advancing and A/E/C firms will go along for the ride."

What Is the Cloud—Really?

Cloud computing is the widely accepted term for using third parties to store data and/or provide software that is accessed via the Internet as opposed to a local hard drive or server.

Cloud providers manage the infrastructure and platforms on which applications run, and services are typically scalable and priced according to use.

Many clouds are public, such as Dropbox, the free online photo and document sharing tool, or Microsoft's Windows Azure Services Platform, which allows users to develop and manage multiple web-based interfaces, including websites.

Private clouds are often operated for a single organization, with the servers on-site or at a third-party location. Hybrid clouds engage two or more cloud platforms in a combination public-private environment.

"Databases have been in the cloud for a number of years, with companies using them primarily for storage," says Eric Stern, project manager at KACO, a geotechnical engineering firm in Miami. "Now that total wireless capability is available, the technology is really taking off."

For years, Stern says, his firm "did everything in Word and Excel." KACO's 25 field technicians would perform geotechnical tests, scribble down the results and return to the office to input them. "It created a massive amount of paper," Stern says of the firm's pre-cloud approach.

Now KACO is working with GeoSpec Systems to implement a cloud-based mobile field management system in which the field technicians input their results into mobile devices, and the information is immediately available.

"The ability to enter data in the field and update in real time is a huge advantage to us," says Stern. "We're able to get the information to our clients so much faster."

AECOM employs several products to promote collaboration including ProjectWise. "In support of our client services we are using GIS web services and SMART monitoring to collect and present project-related data to the client," says AECOM Global Director of Delivery Solutions John Kizior.

Are We Moving Too Fast?

Despite obvious benefits (see sidebar), some executives have expressed reservations about moving to the cloud. Seventy-five percent of respondents to the Spiceworks survey listed security and reliability as their biggest concerns.

But proponents of the cloud say such issues are overblown.

"The diligence in our security is a lot higher than an individual firm would do," says Vineet Jain, CEO of Egnyte, a cloud provider in Mountain View, Calif., that lists several engineering firms among its clients. "The amount of encryption and data duplication that we do is industrial grade."

And reliability also appears to have improved. "Our data centers are 99.99 percent guaranteed uptime," says Mitt Pfohl, principal at GeoSpec Systems in Denver.

But reliability and security are not the only concerns that make it difficult for engineers to fully embrace the cloud. Another challenge is the widespread industry use of large, computer-aided design (CAD) files, which take time to upload and download and can appear even slower when accessed through a third-party cloud provider.

"A CAD file that we typically work with may be one to 15 megabytes," explains Matt Hirst, vice president of Caldwell Richards Sorensen (CRS), a 33-person engineering firm in Salt Lake City. "Add all of the external references and you may have 50 megabytes. Add to that the aerial and you've got 400 megabytes. That's just too big."

But Hirst isn't giving up. He recently worked with Egnyte to install a hybrid system that uses two servers. One server is in the cloud; the other is housed locally at CRS and installed and maintained by Egnyte.

When an engineer in the field makes a change to a CAD file on a mobile device, only the affected file is updated. It then goes to the cloud and comes back down to the office server. The external references and aerials, which account for the file's bulk, remain unchanged.

Making the Investment

While work in the cloud offers firms significant cost efficiencies, getting from here

Is your technology investment keeping pace?

EXPECT MORE

If your current vendors can't — or won't — fill the gaps in functionality or in service, it's time to find a solution that can meet all of your organization's requirements. Now more than ever, businesses need an advantage over the competition, whether your focus is improving customer service or fine tuning your bottom line.

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to there requires a substantial investment in time.

"The initial transition was a huge effort," admits Sherri Bayer, information technology director at Psomas. "We even brought in a consultant to help us out."

Given the enterprisewide impact of moving to the cloud, experts agree that firms should create a comprehensive plan. Pfohl suggests forming a steering committee that includes all stakeholders, from operations to financial management to IT.

Interestingly, Egnyte's Jain says the IT department is often the least enthusiastic about the transition. "IT always has their neck on the line," he explains. "If something goes wrong, it's always their fault."

So, What's the Bottom Line?

The most basic question is whether the firm's circumstances would improve by moving to the cloud. Firms must analyze current and future needs, the lifecycle of IT hardware and software, and what's available in the marketplace.

If moving to the cloud makes sense, the first step is to standardize the company's IT infrastructure, systematically eliminating silos that might have been erected over time. Consolidation allows the company to take full advantage of its transition to a web-based architecture.

Once the firm is ready, most IT experts advise taking a piecemeal approach to the transition. Psomas, like many firms, started by moving only its email system to the cloud by putting its Exchange application on Microsoft's Office 365 platform.

At KACO, executives are taking the migration one step at a time. It's first order of business: to successfully implement GeoSpec's mobile field management service system. "GeoSpec also has a comprehensive enterprise resource management system, but we're not going to try to integrate our system yet," says Stern. "If we get what we're doing now working seamlessly, it's a possibility."

"It's best to start adopting on a single project basis," admits Jain. "See how well it works for you. Canvass all the affected parties. Start small and then move step-by-step until you have the whole company involved." ■

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

Resource Demand Management: Closing the Gap Between Strategy and Execution

By Colin Brown and Amanda Akass

Resource Demand Management—or the art of deploying the right people at the right time to the right projects—is relatively simple to define, but is probably one of the most complex operations for businesses to manage successfully. Done well, and it can make a huge difference to a company's bottom line, promote sustainable growth, increase ROI and time to market, and ensure complicated projects are delivered successfully. Done badly (or not at all), and the time and effort of whole swathes of the workforce can be misdirected.

- **Harman reduced headcount by 20%**
- **Telecom firm Orange realized a 25% reduction in time-to-market**

Its techniques lead to impressive results; examples abound of global corporations in industries from engineering and telecoms to healthcare making cost or time to market savings of 20% or more. In a world where rising costs are putting organizations under pressure to cut staff and spending, and government austerity measures take their own toll; making the most of existing resources is a critical issue.

Colin Brown, U.S. West Coast VP for Pcubed, a global leader in portfolio, program and project management, says integrated capacity planning and resource demand management is the missing link between strategy and execution:

"Over the past few years organizations across the globe have been running up against the same challenge—how to close the gap between strategic planning and their ability to execute those plans, given their resource limitations."

Portfolio management is one piece of this, but related and equally important is resource capacity and demand management. "The idea is to translate high-level strategic thinking into day-to-day management by developing an understanding of what people have the capacity to do within a certain time," he says.

The key is establishing visibility. "Firstly, you need to establish an understanding of what employees actually are committing their time to through tracking resources at the lowest level," Brown explains. "The biggest challenge is getting employees to see the value in planning and tracking their time consistently well."

"Secondly, those involved in the high level process need to understand the resource requirement their strategic ideas will impose on top of these existing commitments.

"Finally, you need to translate one to the other through the prioritization and resource allocation process. This has to be completely transparent and it helps if it can be undertaken when translating an organization's strategic plan into the annual planning cycle, so projects can be sequenced appropriately. If possible, peaks in demand can then be overcome by deferring other blocks of work rather than buying in additional resources."

These techniques have been successfully deployed across a broad range of organizations. For the organizers of complex events, such as the London 2012 Olympics, the efficient allocation of resources—when working to fixed budgets and unmovable deadlines—is essential. The need for these processes is also becoming particularly apparent with expanding technology companies for whom aligning capacity and strategy is the fastest way to improve time to market.

Successful resource demand management has a compelling impact on a company's financial bottom line. When Pcubed partnered with Harman (a German electronics manufacturer) to study the origins of resource demand within the organization, the engineering team's headcount was reduced by 20%. Telecom firm Orange reduced time to market for a new product from 22 to 15 months.

For many organizations in the engineering, healthcare and retail sectors in particular, one crucial goal is being able to work out whether they have the resources to take on a major project—such as an ERP implementation—and still maintain business as usual.

"These organizations are making strategic bets on big initiatives that will consume huge chunks of resources," Brown explains. "Resource demand management is the only way of understanding what won't get done if you embark on a major change plan."

The compelling results from resource demand management are having a hugely successful impact on a growing number of organizations across the world. Although it requires a relatively high level of management maturity and organizational discipline—with resources as tight as they are in the current global economy, knowing how to manage them successfully is a number one priority.

Colin Brown is the West Coast VP of Consulting at PCUBED, a global consulting firm focused on business transformation with deep expertise in program and portfolio management. PCUBED clients include nearly half of the Fortune 500, Ford, Chevron, Microsoft, Harman, the UK and Australian Governments and the Olympic Delivery Authority. Colin may be contacted at colin.brown@pcubed.com

By Alan Joch

6 Ways to Keep Cash Flowing

The current economic environment makes healthy cash flow more important than ever. **Here's how to stay on top of receivables and tone up balance sheets.**

For many engineering firms, the secret to surviving—and thriving—in today's volatile economy comes down to one word: cash.

Having sufficient cash on hand and a steady inflow of money to keep operations humming helps generate a positive buzz among staff, clients and partners. It also influences the availability of credit lines and loans to help businesses grow; and reduces the need for sometimes painful, and often risky, stop-gap measures, such as when executives are forced to tap personal finances to meet payroll obligations.

STEVE COLE/GETTY IMAGES

For these and other reasons "cash and the strength of a company's balance sheet are more important than ever," says David S. Cohen, managing director of Natick, Mass.-based Matheson Financial Advisors, Inc., which works with engineering, architectural and environmental firms.

"Having a strong balance sheet, the ability to turn accounts receivables into cash and strong retained earnings will allow a company to persevere in difficult times for longer than a company with a thin balance sheet," Cohen advises.

But engineering executives can counter that maintaining adequate cash flow is difficult, especially at a time when some clients are stretching receivables to 90 days or more.

What can engineering firms do to keep the cash coming? Industry experts say these six steps are key to a firm's financial strength.

Step #1: Revisit Staffing Levels

Many firms were forced to cut staff during the recession, but some headcounts may still be too high when compared to billings. That's significant from a cash management perspective since labor costs are typically the biggest expense by far for most companies. "If you are overstaffed, the money that's coming in isn't matching up against what's going out," Cohen explains. Bottom line: "You may not be able to control revenue, but you can control payroll," he says.

Step #2: Invoice Intelligently

Take a disciplined and informed approach to billings by sending out invoices according to client payment schedules, not just at the end of the month. For example, some customers pay bills at the beginning of every month, which means an engineering firm should forward invoices for these clients by the middle of the preceding month. Conversely, sending invoices at month's end might mean missing the processing cutoff and delaying payments by at least 30 days.

To keep track of who pays when and when invoices should go out, create tickler files in the accounts receivable modules of your financial management system. These same modules should offer a way to track when an invoice is late based on the payment practices of each individual customer, says Paul Haglund, director of finance at CTLGroup. "The ideal report is one that I can tweak based on the client's normal payment cycle. Then the receivables aging is triggered by the expected receipt date, not the date that you sent the invoice out," he explains.

Step #3: Stay on Top of It

Don't wait for a receivable to be late before communicating with clients. Instead, routinely follow up invoices with letters or phone calls to confirm that clients received the statements and that the invoices were in the proper format, with all the necessary information needed for payment. Finding out about lost or problem statements once the receivables are already late could add *another* 30 to 60 days to the payment cycle, engineering executives warn.

"We are certainly doing a better job of avoiding those situations where a customer might have lost the invoice or some problem has occurred during processing," says Ian Frost, president of EEE Consulting, Inc., Mechanicsville, Va., an engineering and environmental consulting firm. "If nothing else, we've become a little bit of the squeaky wheel. When you stay in front of clients, they are more likely to pay a little more quickly."

Step #4: Cash Reserves

Having a sufficient amount of cash in reserve for operating revenues will help mitigate cash flow uncertainties. Frost says his firm now tries to keep three months' worth of reserves in the bank in case it's needed for payroll or other expenses. In the past, the firm felt comfortable with only two months of capital. "That's because of the expectation that payments from clients will now take longer," Frost says.

Although EEE pegs three months of reserves as appropriate, some in the industry wonder how much exactly is enough. One traditional rule of thumb is $20,000 to $25,000 of working capital for each full-time employee. But firms face a wide range of liabilities, such as accrued salaries, vacation and sick time, and salary-related expenses, such as payroll taxes, 401(k) matches and health insurance.

Step #5: Get Close to Clients

Implement internal processes to help manage customers more effectively. For example, weekly or biweekly internal meetings can be scheduled to review project milestones, upcoming billings and the status of accounts receivable. This is also a time to discuss why a particular client is slow to pay. Sometimes the root cause is a problem with the project, not an economic consideration. "If a client is not paying, it may well be because they are unhappy with the status of the project, and that's something you need to know before it becomes a festering sore," Haglund says. "That's the last thing you can afford."

Step #6: Use Debt Wisely

Many firms understandably try to keep their debt load to a minimum, but in an era of low interest rates, credit lines and financing may offer an acceptable antidote to cash-flow uncertainty. The problem, however, is that borrowing might be an option only for firms that are already financially solid. "So you may ask yourself, 'If I have a strong enough balance sheet, why would I borrow?'" Cohen says. "The reason is that with inexpensive debt right now, you may generate a better equity return. If you can borrow at 3.25 percent to generate at a 17 percent return, why wouldn't you do that? Your cost of equity tends to be higher than your cost of debt. And utilizing outside financing at a very low interest rate might make sense."

Timely Payments: A Permanent Challenge

Industry observers say that firms should get comfortable with any techniques they have used to better manage cash flow in tough economic times. The reason: Such methods will likely become permanent.

Though the economy and the industry have both exhibited signs of growth, especially in the area of public-sector projects, prompt payment of receivables remains a challenge for most firms.

"More of our work is design-build projects, which means we're often a subcontractor to a large design firm that's a subcontractor to a contractor. That lengthens the time it takes to get things paid," says Frost, of EEE Consulting. "Receivables are going to continue to be a big issue because of this trend toward design-build projects." ■

Alan Joch is a business and technology writer based in Francestown, N.H.

Building a Stronger Future:

HOW YOU CAN MAXIMIZE TAX CREDIT SAVINGS

For many the phrase "Research and Development" conjures up images of big pharma and biotech, lab coats and Bunsen burners, or inventors toiling away in obscurity – their Eureka moments happening only after years of struggle and disappointment. The reality of R&D is that highly valuable, government sponsored incentives are available for work done in many industries, especially engineering, construction, and architecture, where innovation and energy efficiency is at the heart of day-to-day activities. Businesses in these fields are potentially eligible for sizable tax credits, but many miss out because of what Dean Zerbe describes as "self-censoring."

Zerbe is the National Managing Director of alliantgroup, the leading provider of specialty tax services that assists companies in claiming tax credits and incentives such as the R&D tax credit and energy efficiency deductions. Zerbe is also the former Senior Tax Counsel to the U.S. Senate Finance Committee and assisted in writing the legislation that expanded the R&D tax credit to include a diverse array of industries. "Many in the construction industry don't realize that what they do often does qualify as a tax credit," Zerbe said. "In tough economic times, our aim is to help get our clients the maximum benefit from every credit and deduction they are eligible to receive."

Taking full advantage of tax incentives is key to significantly reducing federal and state tax liability for many businesses. Since recent law and regulation changes have expanded the requisite definition of qualified R&D, the credits are applicable to activities associated with the design and development of buildings, structures, and mechanical and electrical systems — common activities in the engineering industry. Furthermore — and perhaps most importantly — since there is no longer a requirement that qualified R&D include activities associated with revolutionary developments (the discovery rule was repealed in 2001), activities to design and develop structures and systems for specific applications may qualify, allowing more firms to benefit substantially from this incentive.

Do tax incentives exist for me?

Many small and mid-size engineering service firms are unaware of tax credits that exist for their design and development work. One such alliantgroup client was a $15 million firm that provided civil, waterfront, and structural engineering design services to clients on a regional scale. Even with the more taxpayer-friendly changes in the law, this firm had no idea it was conducting qualified activities, and thus had never taken advantage of the R&D tax credit.

As an example of this firm's R&D, they had undertaken a project to design and develop a bridge using unique materials for specific structural loads. Their engineers accomplished the project requirements through several iterations of hypothesizing a design, assessing the design through computer modeling and other engineering analyses, and redesigning based on evaluation results. Although this firm did not initially view the project as R&D by traditional notions, once they understood the true definition of qualified research, and that qualifying projects are not obligated to meet a threshold of innovation, they realized that their everyday activity could be substantiated for claiming the R&D tax credit.

Did the bridge project meet the requirements?

The bottom line is that this company was able to realize approximately $250,000 in tax savings. In addition, once it was established how this project met the requirements of the R&D tax credit, the firm had a model from which to claim credit on other bridge projects, which they undertook regularly.

179D: Building for Energy Efficiency

Engineers and constructors can also take advantage of the 179D energy efficient deduction when they work on qualifying projects for local, state or federal governments. According to Valerie Ward, alliantgroup's National Director of Energy Credits and Incentives, eligible engineers and contractors who perform energy efficient design work on new, renovated, or retrofitted buildings can garner a deduction of up to $1.80 per square foot for projects placed into service from 2006 to 2013. "Since government entities do not pay taxes, they can transfer these deductions to those who did the design and the work," Ward said. Examples of eligible work include energy efficient lighting, HVAC systems, hot water and building envelope systems. Schools, universities, military bases, airports, post offices, and government offices are all examples of projects in which deductions may be available.

Taking full advantage of incentives ensures a competitive edge

While CPA firms may well understand all the relevant tax law and regulations, few have the in-house industry specific technical expertise to properly qualify and quantify the R&D tax credit or 179D deduction. Conversely, while engineering firms know their own business better than anyone, they don't have the tax expertise to know how to claim the credit successfully. Not only are laws and regulations involved, but also case law from tax court and other venues. Like engineering projects, it's a complex process that must be completed accurately. For these reasons, outside firms, such as alliantgroup, with extensive expertise and experience in both tax law and the engineering disciplines, are generally called in either by the engineering firm or its CPA.

SUCCESS STORIES

Mechanical Engineer
Annual Revenue $36mm
R&D Credit Result $466,000

Electrical Engineer
Annual Revenue $45mm
R&D Credit Result $648,000

A&E Firm
Annual Revenue $250mm
R&D Credit Result $607,000 and
179D Credit Result $450,000

To remain competitive and grow, small and medium sized engineering and construction firms need to reinvest every dollar they earn. Each dollar paid in federal taxes is a dollar less invested in innovation, new employees, larger markets, and growth. The number of firms embracing the R&D tax credit and 179D deduction is growing exponentially, and the benefits they are receiving from these powerful incentives are giving them a competitive edge.

Our economy is continuously changing as new developments and laws are passed, but the R&D tax credit and 179D deduction share bi-partisan support, and it appears they are here to stay. The R&D tax credit has been successful in encouraging innovation and strengthening the economy, and Zerbe is confident that leaders in Washington and state legislatures will continue to support the credit in the future. "The R&D tax credit and the 179D deduction are favored by politicians of both parties," Zerbe said. "They know that it is good for this country and good for competitiveness. I don't see it being disturbed at all. Both sides of the aisle recognize how vital the R&D tax credit is in promoting economic growth, and alliantgroup is dedicated to helping American business succeed."

It is time to take advantage of the lucrative tax benefits offered by the government. Don't self-censor and miss out on incentives that can insure the continued growth and innovation of your company.

About alliantgroup

alliantgroup is the nation's premier provider of specialty tax services. Headquartered in Houston, TX, with offices across the country including California, New York, Illinois, and Washington, D.C., alliantgroup works with accountants and their clients to ensure they receive the full benefits of all available federal and state government-sponsored tax credit and incentive programs. For more information, please visit www.alliantgroup.com.

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DEAN ZERBE
Former Senior Counsel to the U.S. Senate Finance Committee

DAWN LEVY
Former Counsel to the U.S. Senate Finance Committee

Tax Reform & the Impact on Architecture & Engineering Firms

Monday, April 22, 2013 | 1:45 - 3:00 PM | Moderator Katharine Mottley, ACEC Tax & Regulatory Affairs

ACEC ANNUAL CONVENTION & LEGISLATIVE SUMMIT

Join alliantgroup at the ACEC Annual Convention and Legislative Summit to hear straight from The Hill about how the current legislative changes will impact engineering and architectural firms. Our experts will discuss how you can ensure that your firm receives the full benefit of all federal and state government-sponsored tax incentive programs such as 179D and the research and development tax credit.

Former Tax Counsels to the U.S. Senate Finance Committee Dean Zerbe and Dawn Levy will share the 'hidden' tax increases contained in the current changes, and the implications of those changes on your business and personal taxes. They will also offer insight into which key business provisions were extended, such as the research and development tax credit that can provide powerful cash infusing funds to help you hire additional employees, competitively price jobs, and expand your practice.

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TEAMING FAIR

- Small firms participate in one-on-one interviews with large firms for subcontracting opportunities on federal contracts.

SUPERSTOCK/GLOW IMAGES

TOP SECOND FROM LEFT: GLOW IMAGES; FOURTH FROM LEFT: WENDY CONNETT/GETTY IMAGES; CENTER: LOGAN MOCK-BUNTING/CORBIS

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Non-Member	$1,350	$1,450
Spouse/Guest	$295	$295

HOTEL INFORMATION

The Grand Hyatt Washington, located in downtown Washington, D.C., between the White House and Capitol Hill and easily accessible by Metro. The ACEC room rate is $299, single/double occupancy, plus 14.5 percent tax. Room reservations must be received by Wed., March 13, 2013. After this date, rooms may not be available or not available at this rate. Rooms are available until the cutoff date or until rooms in the ACEC room block are gone, whichever occurs first.

To make your hotel reservation online, visit **www.acec.org/conferences/annual-13** and click on "Hotel and Travel" to access the hotel reservations link. A reservation confirmation will be sent to you directly from the online reservation agent, at which time your reservation is definitely held at the Grand Hyatt. Or call toll free, 1-888-421-1442, and reference "ACEC Annual Convention."

To register, or for more Convention information, email meetings@acec.org.

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Middle East & North Africa Markets Offer Unprecedented Opportunities For U.S. Engineering Firms

By David Hamod

Media coverage of the Middle East and North Africa (MENA) tends to focus on bad news: violence and instability, most recently associated with the Arab Spring. These news stories, however, present a very misleading picture of a market that holds U.S. companies—and the American people—in high esteem.

There are few places that appreciate American expertise, technology and business practices the way that the Arab world does. Exports of U.S. goods and services to the region are doubling every four years and, according to research by the National U.S.-Arab Chamber of Commerce (NUSACC), the MENA market demand for imported goods and knowledge-based services will reach $1.3 trillion by 2015. Compared with certain BRIC nations (Brazil, Russia, India, China), MENA's import demand is four times that of Brazil, three times that of Russia, and one-and-a-half times that of India. U.S. companies' share of the MENA market is on track to increase from 9 percent in 2011 to 12 percent in 2015, generating nearly $160 billion in U.S. exports per year and creating or sustaining more than 1.5 million direct and indirect U.S. jobs.

While not the largest market in the world, the MENA region is certainly one of the most appealing to U.S. engineering firms. According to the Middle East Economic Digest (MEED), the region's megaprojects are picking up steam, with the 100 biggest developments under construction accounting for more than $300 billion worth of capital spending. MEED estimates that activity in 2013 and beyond is set to increase, with the top 50 projects planned or underway valued at $1.56 trillion, a stunning 42 percent increase over last year.

Infrastructure projects are driving economic development throughout the MENA region, which, on a per capita basis, may be the fastest growing market for engineering expertise in the world. These projects run the gamut: seaports, airports, railways, roads, bridges, petrochemicals, health care, water, wastewater and sewerage, mining, telecoms, and power generation, to name just a few sectors.

Transit and transportation projects are the biggest single segment in MEED's top-100 projects under construction. According to Bechtel, more than $156 billion worth of railway projects are now planned or under way in MENA, making the Arab world one of the world's fastest growing markets for rail. In the same vein, one-third of all U.S. commercial aircraft exports in 2011 went to MENA nations, with world-class airports sprouting up all over the region.

The destination for approximately 70 percent of America's MENA exports—the Gulf Cooperation Council (GCC) nations, led by the United Arab Emirates and Saudi Arabia—are experiencing an unprecedented economic boom. Black & Veatch estimates that the value of power and water projects needed in the MENA region will rise to $570 billion by the end of 2016.

According to OPEC, MENA will continue to be *the* key crude exporting region for years to come, boosting production from 17 million bpd in 2011 to 20 million bpd in 2035. Satisfying world energy demand requires large-scale, ongoing investments in fuel—including oil and gas—and America's cutting-edge energy technologies are in great demand. While U.S. engineering firms are marginalized in many emerging markets by national oil companies favoring local companies, MENA producers have a long history of partnering with American firms.

Long-term access to oil revenues ensures that infrastructure and energy investments will continue to grow in the MENA region and, every bit as important to ACEC companies, contractors will get paid in a timely fashion. While some economies in the Middle East were considered "down for the count" during the height of the recent global economic downturn, many of these economies, such as Dubai, have turned things around and are now perceived as attractive havens for foreign investment. In addition, political transitions in some MENA countries, such as Iraq, Libya, and Tunisia, are creating new greenfield opportunities in markets that were previously unavailable to U.S. companies, especially small and medium enterprises.

At a time when economies are struggling in such traditional growth markets as Europe, the Association of Southeast Asian Nations "Tigers," and even China, the Arab world—so full of natural resources—continues to chug along. NUSACC forecasts that real GDP in the MENA region will grow at a respectable 4.59 percent in 2013, 5 percent in 2014, and 5.28 percent in 2015. And perhaps the most noteworthy statistic of all: With youths comprising roughly two-thirds of the Arab world's population, the quest for economic growth, productive employment, and a better quality of life is expected to drive commercial opportunities for decades to come.

David Hamod is president and CEO of the National U.S.-Arab Chamber of Commerce. Visit its exhibit booth at the ACEC Annual Convention and Legislative Summit, April 21–24, 2013, at the Grand Hyatt Hotel in Washington, D.C.

Grassroots Effort Can Move Polarized Congress

As executive vice president of HNTB, Paul Yarossi serves on the company's board of directors and is responsible for overseeing the firm's governance, capitalization strategy, compliance and audit functions, and external and government relations.

Q. What engineering feat has most inspired you?

A. If I had to pick one engineering feat that left me in awe, it would be the Hoover Dam. The sheer size coupled with integrating so many branches of engineering should inspire everyone.

Q. What do you consider your greatest professional achievement, and why?

A. I hope my greatest professional achievement is ahead of me. There are many that I would have considered the greatest at the time they happened. Some designs I have been involved with that I am proud of include the hydraulics of a large diversion chamber and the drop shafts for a deep tunnel storage program that included significant laboratory hydraulic modeling. Also, successful plans and specs for jacking a number of utilities under a railroad yard; solving a pavement rutting problem at the approach to toll booths; and managing a tunnel project that included bored tunnel through soft ground, mixed face and rock. Such projects challenged my knowledge of the fundamentals of engineering and are most gratifying.

Q. What in your view is the long-term solution to funding infrastructure?

A. There is no single long-term solution. I believe there is a strong continuing role for the federal government if we can arrive at a sustainable funding source. It could be a gas tax, a sales tax, or some other means we're looking at right now, or a combination. I think there also needs to be recognition that each project may have unique funding possibilities. A long-term solution, in my opinion, would require multiple funding sources. A business case would be made for the best way to fund each project.

Q. What is your take on the impact of M&A on our industry?

A. First, I think that there are ample opportunities for all sizes of companies in our industry, but it's a choice not a requirement to be successful. It's a business strategy for both sides to grow and an opportunity for both firms and employees. M&A is a business reality that is not going to go away.

Q. ACEC's PAC had a record fundraising year in 2012 and is now in the top 3 percent of PACs nationwide. How can this tool be used effectively to move a polarized Congress to enact the industry's agenda?

A. I don't think that the PAC alone, even at the successful level of ACEC/PAC, is sufficient to move a polarized Congress. The PAC should be used to support those who can support ACEC's agenda. Moving a polarized Congress has to come from grassroots efforts in conjunction with PAC funding. Such efforts will be successful if we can get a majority of people in our industry to make calls to their congressmen.

Q. Considering that HNTB is a large employee-owned company, how do you view current trends in tax policy, and what do you believe lawmakers can do to encourage employee ownership?

A. In my opinion, the ESOP S-corp is the most effective way of sharing the wealth of a firm with its employees. Taxing it runs counter to having employees share in the firm's success. Current trends and proposals to place a revenue cap on S-corps would be devastating to ESOPs. The best thing that Congress can do is leave it alone. ESOPs are not broken, and at least at HNTB are working quite well.

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Engineer Your Business As Well as You Engineer Your Projects

Managing your A/E business for success requires technical know-how coupled with awareness of today's best multidisciplinary business practices. Firm managers also must know the rules of finance and how they work in the real world—from reading straightforward income statements to making complicated investment decisions. Effectively meeting these and other business challenges in an uncertain economy requires:

- Understanding human relations and related legal elements;
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- Knowing the fundamentals of business development; and
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ACEC's *Business of Design Consulting* course is a comprehensive 2013 update on the primary underpinnings of the successful A/E business and serves as a playbook for building leadership and managing your firm at the most effective levels.

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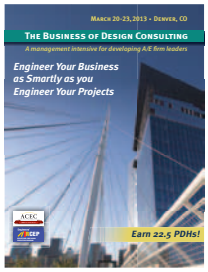

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Visit www.acec.org/education/eventDetails.cfm?eventID=1405 for more information.

Expert Witnessing: Your Firm Could Realize a Profitable New Income Stream in 2013

Engineers are experts in a variety of technical arenas, which is why they are often asked to provide expert witness testimony in court settings and administrative hearings.

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Is there a possibility you might be asked to serve as an expert witness—for your own firm or a client? Expand your courtroom savvy and confidence—as well as your firm's revenue stream—by signing up for our *Applying Expertise as an Engineering Expert Witness* course June 20–21, in Chicago.

The program will feature insights from Guy Vaillancourt, president of Woodard & Curran; the Hon. Arthur Bergman for the Superior Court of New Jersey; and Jim Lee, an attorney for Lee & McShane in Washington, D.C. Successful completion of this course qualifies participants to apply for the ACEC Expert Witness designation (EXW), as well as to have their names listed on ACEC's online directory of EXW professionals.

Please visit www.acec.org/education/eventList_Specialty.cfm?el_ID=30 for course highlights and to get registration information.

CASE Guideline 962-G: Performing Project-Specific Peer Reviews on Structural Projects

Increasing complexity of structural design and code requirements, compressed schedules and financial pressures are among many factors driving increased peer review of structural engineering projects.

Peer review of a project by a qualified third party can improve a project with less risk to all parties involved, including the engineer, owner and contractor. Peer reviews can be performed voluntarily by the engineer of record on a quasi-voluntary basis, sponsored by the owner/client, or conducted on a nonvoluntary basis by the jurisdiction that is responsible for approving the project.

Many aspects of a successful peer review process must be established prior to the start of the review to ensure the desired outcome. These items include specific goals, scope and effort, the required documentation, the qualifications of an independent peer reviewer, a process for the resolution of differences, the schedule and the fee.

The *CASE Guideline 962-G: Guidelines for Performing Project-Specific Peer Reviews on Structural Projects* materials address only technical peer reviews and are designed to increase awareness of critical issues, assist in establishing a framework for the review and improve the process for all interested parties.

CASE products can be purchased at www.acec.org/bookstore.

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.

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"Thank you for arranging an unforgettable and stimulating experience. I was fortunate to talk with many highly informed experienced professionals. We plan to use many aspects of the discussions, panels and breakout sessions as a reference as we move forward with our future plans."

"Matheson Advisors put on a great conference in Chicago. The sessions and speakers were jam-packed with hard practical information on financial and M&A strategies for the A&E industry. It was like attending a 2-day MBA class. Great stuff."

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"I really enjoyed the M&A meeting last week. It was a crash MBA."

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Members in the News

On The Move

Alan Krause has been named chairman of Broomfield, Colo.-based **MWH Global** following the retirement of **Robert B. Uhler,** who becomes chairman emeritus. Uhler had been CEO since 2001 and became chairman in 2009. Krause was appointed president and CEO in November 2011.

Chris Schultz was promoted to president and COO of San Antonio-based **Raba Kistner Consultants, Inc.,** a wholly owned subsidiary of Raba Kistner, Inc. Since 2004, Schultz has served as senior vice president and will continue to act as practice leader for geotechnical engineering. Schultz is currently a participant in Class 18 of ACEC's Senior Executives Institute. **Robert Costigan**, former president and COO, has announced his retirement and has become a senior consultant to the company.

Mike Carroll joined **AECOM** as executive vice president and region executive of the U.S. West region, where he will be responsible for AECOM's overall business strategy in the region. Carroll will be based in the firm's Denver office.

With **Stantec's** acquisition of **Greenhorne & O'Mara (G&O)** in December 2012, former CEO **Joseph T. Skinner** has transitioned into the position of senior principal, and is now based out of Raleigh, N.C.

Anderson, Eckstein and Westrick, Inc. (AEW), based in Shelby Township, Mich., appointed **Vanessa A. Hayes** to its board of directors and named her chief financial officer. Hayes is based in the firm's headquarters.

John Boulé, former commander of the New York District, U.S. Army Corps of Engineers, was named a vice president of New York City-based **Parsons Brinckerhoff (PB)**. Boulé will serve as lead manager for the Northeast Region's Superstorm Sandy recovery and mitigation efforts. **Ronald Colas** was named a vice president in the Miami office of PB, where he will manage operations in South Florida, the Caribbean and Latin America.

RETTEW, an engineering and consulting firm headquartered in Lancaster, Pa., named **Edward E. Reese** vice president. Reese will manage the firm's Pittsburgh office, where he is based, its Canton, Ohio, office and lead transportation business development.

Margarita Gagliardi has joined Philadelphia-based **Urban Engineers** as vice president of transit planning. She is based in New York City.

Charlotte, N.C.-based **WK Dickson & Co., Inc.,** appointed **David Ashley** vice president and regional branch manager. Ashley will assume responsibility of the firm's Atlanta-area office operations and will direct the firm's water resources practice in Georgia.

Tamara J. Johnson was named a vice president of Aurora, Colo.-based **Merrick & Company.** Her new responsibilities include client relations and corporate development in Texas.


Alan Krause


Chris Schultz


Mike Carroll


Joseph Skinner


Vanessa Hayes


John Boulé


Ronald Colas


Edward Reese


Margarita Gagliardi


David Ashley


Tamara Johnson

Anniversary

Anderson, Eckstein and Westrick, Inc. (AEW), is celebrating 45 years of service this year. Founded in 1968, the Shelby Township, Mich.-based firm offers civil engineering, surveying, architecture and geographic information system (GIS) services. It also provides a host of specialty services to clients in the municipal, educational, medical, commercial, industrial and religious sectors.

When asked about the firm's success, AEW President Roy Rose said, "Surpassing at least two economic downturns during the history of our firm has proven that AEW has staying power. Our conservative approach to business, combined with an innovative approach to projects, and decades of sound engineering advice, has benefitted our clients with quality, cost-effective solutions."

Welcome New Member Firms

ACEC/Arkansas
McClelland Consulting Engineers, Little Rock

ACEC/California
BA Inc., Los Angeles
HJI Group, Newport Beach
Michael K. Nunley & Associates, Inc., Arroyo Grande

ACEC/Colorado
Investigative Engineering Corp., Littleton
ProConn Power, Greenwood Village
Straightedge, Inc., Arvada

ACEC/Illinois
Grumman/Butkus Associates, Evanston
Quandel Consultants, LLC, Chicago
W-T Engineering, Inc., Hoffman Estates

ACEC/Indiana
Morley and Associates, Inc., Newburgh

ACEC/Louisiana
Burk-Kleinpeter, Inc., New Orleans
WT and Associates, Baton Rouge

ACEC/Maine
Allied Engineering, Inc., Portland
Summit Environmental Consultants, Inc., Lewiston

ACEC/Mississippi
Murphy Engineering, Inc., Tupelo

ACEC/New Jersey
TechniQuest Corporation, Monmouth Junction
VSMA Engineering Corp., Jackson

ACEC/Ohio
KS Associates, Inc., Elyria

ACEC/Oregon
MFIA Inc., Portland

ACEC/South Dakota
Infrastructure Design Group, Inc., Sioux Falls

ACEC/Texas
DAL-TECH Engineering, Inc., Dallas
Image Engineering Group, Ltd., Grapevine
Schrickel, Rollins and Associates, Inc., Arlington
Urban Engineering, Corpus Christi

ACEC/Wisconsin
JSD Professional Services, Inc., Verona

Calendar of Events

MARCH

- **5** ESOPs and Why Engineering Firms Love Them (online seminar)
- **12** Nothing Happens Till Somebody Sells Something (online seminar)
- **13** Risk Management Essentials for Engineers (online seminar)
- **21** Integrated LEAN Delivery (online seminar)
- **20–23** Business of Design Consulting, Denver
- **26** Betting the Firm: Managing the Risks of Indemnity Clauses in Professional Services Agreements (online seminar)

APRIL

- **2** Transportation Project Financing Through TIFIA: Major Expansion of Federal Assistance (online seminar)
- **10** Successful Integration of an Acquisition (online seminar)
- **11** Seven Critical Mistakes Engineers Make During Contract Negotiation & Project Execution that Sabotage Their Projects and Invite Litigation (online seminar)
- **16** Small Firms Financial Dashboard (online seminar)
- **18** How to Write Division 00: Tips for Preparing Effective Bidding and Contracting (online seminar)
- **21–24** ACEC Annual Convention and Legislative Summit, Washington, D.C.
- **30** Accounting 101 for Project Managers (online seminar)

MAY

- **29** Project Work Planning: The Process of Planning and Executing a Contract (online seminar)

JUNE

- **20–21** Applying Expertise as an Engineering Expert Witness, Chicago

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.

BY MICK MORRISSEY

Industry Consolidation Back To Pre-Recession Pace

Last year saw the pace of industry mergers and acquisitions (M&As) return to pre-recession levels, reflecting a more robust and optimistic A/E industry.

After a slow start to the year, the industry recorded 180 firm sales in the United States in 2012, up from the 175 the prior year and on par with the record 180 in 2008.

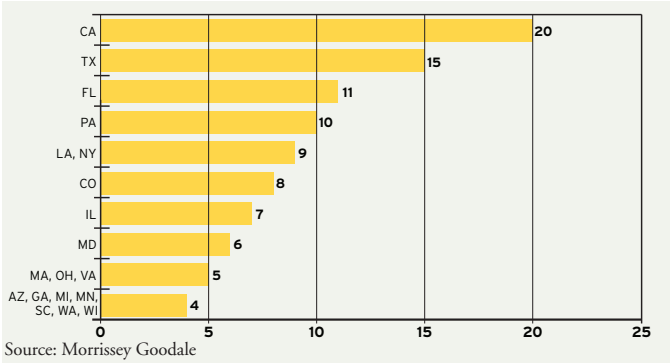
In expanding economies, there tends to be more M&A activity, as firms become more bullish on future opportunities and are more willing to invest cash and use their balance sheets to fund investments in growth. Across the country, firms are seeing more and better opportunities and their backlogs are growing. The common denominator in the equation is that more private money is moving off the sidelines and into infrastructure and facilities development and rehabilitation.

The Hottest States for M&A

California continues to be the most active M&A market for A/E firms in the United States. Last year, 20 firms in the Golden State were sold. Texas was the second-most-active deal market with 15 sales. The two states combined accounted for nearly one-fifth of all U.S. firm sales last year. This is not surprising. Annually, California and Texas see more M&A activity than other states because of the relatively large size of their economies and their large populations of indigenous A/E firms. We anticipate this pattern will play out again in 2013. Texas will continue to be highly attractive to out-of-state buyers given its economic outlook and its business friendly climate. And positive economic news emerging from California will encourage out-of-state buyers to make acquisition investments in that state.

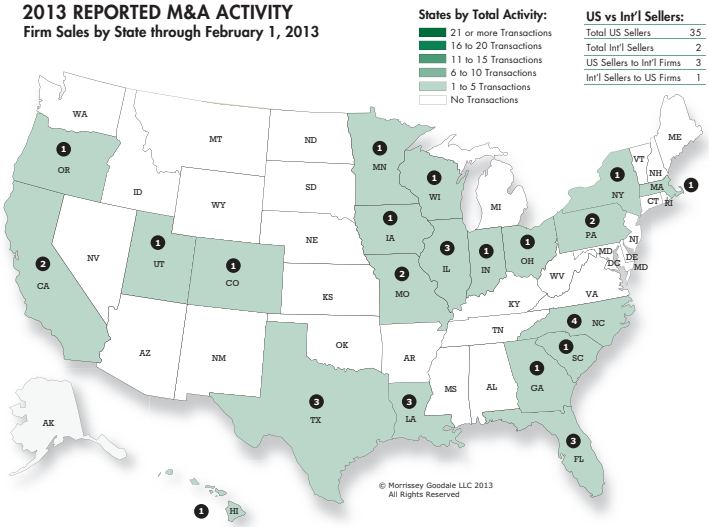
A good indication of a hot M&A market is a year-over-year increase in deal activity. In 2012, Louisiana got hot, closing nine firm sales compared with just two deals in 2011. We expect to see continued interest in Louisiana in 2013, fueled by continued interest in firms with oil and gas experience.

Top States for Firm Sales – 2012



Source: Morrissey Goodale

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



Louisiana was followed closely by Florida with a year-over-year firm sale increase of five, representing renewed interest in the state's diversifying economy.

ACEC Deal-Makers

Here are updates on some ACEC Member Firms that were active in growing their businesses through M&A at the end of 2012 and into 2013:

On Jan. 3, ACEC Member **CHA Consulting, Inc.** (Albany, N.Y.), announced the acquisition of **Coler & Colantonio, Inc.** (Norwell, Mass.), one of the Boston area's largest engineering firms, creating a 1,400-person global firm.

On Jan. 7, ACEC Member **Bergmann Associates** (Rochester, N.Y.) announced its acquisition of **Gantt Huberman Architects** (Charlotte, N.C.), a leading regional architecture firm. The acquisition will create Bergmann's 12th regional office and its first in the Carolinas, bringing the firm's employee total to 375.

On Jan. 18, ACEC Member **Gannett Fleming, Inc.** (Harrisburg, Pa.), announced its acquisition of **Griffin Engineering and Technical Services (Griffin Engineering)** (Morrisville, N.C.). Griffin Engineering became part of Gannett Fleming's national Mechanical and Electrical Practices.

On Jan. 17, ACEC Member **Forsgren Associates, Inc.** (Salt Lake City), a civil and environmental engineering and consulting firm, acquired the Logan, Utah, office of **Sargent Engineers** (Olympia, Wash.).

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

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.

***Watch the* M&A Takeaway *video that accompanies this article, presented by Mick Morrissey at* www.morrisseygoodale.com/ACECMergers/MarchApril2013.**

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

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