

The VOICE

The official magazine of The Construction Users Roundtable

Fall 2009

SHOW ME THE MONEY:

How Can You Get
a Piece of the
Stimulus Pie?



INSIDE:

- Major Opportunities in the Nuclear Industry
- Working Towards LEAN Project Delivery
- Getting the Most for Owners in Construction Contracting
- CURT Member Profiles

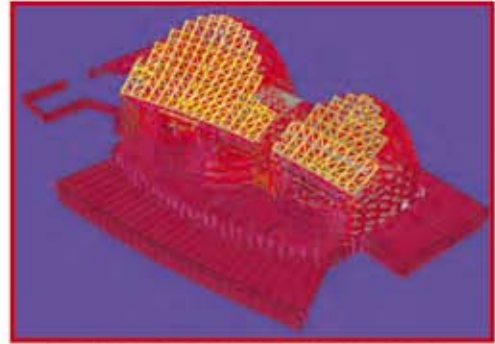
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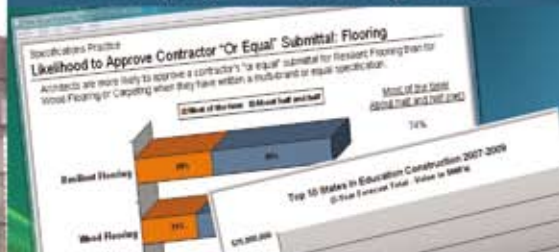
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On the Cover:

When the American Recovery and Reinvestment Act was signed in February 2009, contractors nationwide took notice. Of its \$787 billion, over \$80 billion was earmarked for infrastructure improvements, including highway and bridge construction projects, building new public rail transportation systems, and constructing a “smart grid” to deliver electricity to consumers. Flip to page 26 to see how the money has stimulated the construction industry and you can get a piece of the stimulus pie.

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Looking to the Future: CURT Strives to Meet Members' Needs

My how time flies! It's hard to believe that I am already in my second year as your president. I really enjoyed the first year working with you, the membership, to make improvements for our members and ultimately the construction industry. We had a number of good, interactive meetings over the year. I especially enjoyed our June meeting in Washington, DC. The venue was fantastic in our nation's capital and the CURT/ENR forum that followed, called "Embracing Change", provided an insight into our new administration that was uplifting and informative. I hope most of you were fortunate like I was to attend the Capitol tour, which gave a behind-the-scenes look at the new visitor's center, which was just completed by the Architect of the Capitol. As a construction organization, CURT and its members can appreciate the difficulty in managing a significant undertaking like this. The coordination and patience required the Architect of the Capitol to satisfy not only the government's needs but at the same time, seamlessly work with the public all during construction. It was truly an amazing project with a marvelous outcome and contribution to preserving our history for generations to come. We can all learn from the innovative and creative applications of planning and execution that were employed to complete this project in a safe and predictable fashion.

Well, things have finally changed for the better with the economy during the summer and into the fall. Job prospects may still be slim for many but companies are beginning to recover earnings and investors are again willing to put their money in those companies. If your organization is like mine, we continue to push the envelope to get more from the same or less to increase our competitiveness and ultimately earnings. Change is now the rule rather than the exception and the rate of change will continue to increase as we look for more ways to be efficient and cost effective. Our company continues to count on and participate with leading industry organizations like CURT to help us deliver those results to our shareholders and ultimately to the bottom line. The cost benefit analysis of CURT is well worth it, even as we continue to question every expense.

I want you to know that your CURT leadership has been hard at work to ensure that the upcoming year will again yield great dividends for your participation. Once again we had a midsummer strategic planning session where we reviewed our goals for the next year and

the direction beyond. This year we invited three industry leaders to join us and participate in the discussions, giving us independent insight as to the needs of the industry and what role CURT can play. The discussions were constructive and supportive as to CURT's primary role of leadership and facilitation in solving industry issues. We diverged the first day and then converged on the second, highlighting areas we are currently working on and new ones that offer opportunities for making a difference.

This year we will continue to drive the efforts we started last year in the CURT infrastructure to manage our resources better and make more effective use of the time our members volunteer. We have taken the first step in our marketing efforts by conducting an extensive marketing survey of our members and industry in general. This will be extremely valuable in fine tuning our future direction for growth, influence and most importantly in delivering value to our membership. It will point us in the right direction for new segments in the construction market that we can help and leverage to enhance our value to the membership.

We will be looking at new initiatives in the areas of productivity and hand-offs to construction. The National Institute of Standards and Technology (NIST) has recently completed a productivity study and plan to develop productivity measures with the intent of ultimately improving productivity at the construction sites. This could be an industry altering effort that CURT will participate in, helping to get the key players to the table. The second is focusing on hand-offs to construction from design and material deliveries. These two components are instrumental for construction to deliver their commitments and could offer substantial leverage for making improvements. If we can make the hand-offs more efficient and predictable, it could allow more efficient and effective use of labor and superior results in the field. More information will be forthcoming on these new efforts.

I look forward to the upcoming year and hope that we can continue to make the difference for you and the other CURT members.

Egon Larsen
Air Products and Chemicals, Inc.
CURT President

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Welcome to CURT'S Annual Conference!

Yes, it's hard to resist wanting to soak up the sunshine outside. And yes, it's hard to focus when you can literally hear dreams coming true at nearby Disneyworld. But I urge you to concentrate on the task at hand—learning as much as you can at this year's CURT National Conference.

The agenda that the National Conference Planning Committee has put together is first-rate, first-class, top-notch and a hundred other cliché descriptions for something great. Featured sessions include an update on the economy by David Wyss, Chief Economist for Standard & Poor's; how to strategically use capital in today's emerging markets, presented by numerous CURT owner members; and a session on advancing the efficiency of the U.S. construction industry, presented by Dr. Shyam Sunder from the National Institute of Standards and Technology, and Ted Kennedy of BE&K.

The CURT National Conference also offers numerous breakout sessions throughout the three days, giving attendees the opportunity to pick-and-choose what topics they want to learn more about. Areas of focus this year include how to avoid legal pitfalls on projects; the rewards, rules and risks for doing stimulus business; LEAN tools and strategies; improving project performance; and how to avoid crane mishaps.

I hope while you're here you also take advantage of the incredible networking opportunities the Conference encourages. It all starts Monday morning with the choice of golfing at Disney's Palm Course, or a tour of Disney that will explore the resort's use of architecture, color and landscaping. Once the Conference gets going, networking is also encouraged during the many breaks being held in the trade show area and during each

night's social activity, including Tuesday night's Awards Gala Dinner and Ceremony.

This Gala Dinner recognizes the safety achievements of the construction industry.

The Construction Industry Safety Excellence (CISE) Awards program was established to honor commendable safety management and safety improvements of owners, constructors and Local User Councils. It's always a great pleasure to recognize those firms or organizations that have most effectively implemented the recommendations of the CURT Owners' Safety Blueprint. I strongly encourage you to attend this celebrated event.

Network, share, learn and grow at this year's CURT National Conference. I hope you take advantage of this opportunity to advance your knowledge of the industry and I hope you take what you learn back to your respective companies. Better yourself, better your company and in doing-so, better the industry.

Norbert W. Young, Jr., FAIA
CURT National Conference Chairperson

I hope you take advantage of this opportunity to advance your knowledge of the industry and I hope you take what you learn back to your respective companies. Better yourself, better your company and in doing-so, better the industry.



See page 50 of The VOICE for more details on the 2009 CURT National Conference.

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Our Success is Great Because Our People are Great

No successful person or organization can claim success on their own and CURT is no exception. Unfortunately, I cannot easily list those who have contributed to our success on this page, but as we close another successful year, some gratitude is in order.

As you know, CURT is the former Construction Committee of the Business Roundtable in Washington, DC. The Construction Users Roundtable began in the first year of the new millennium, the year 2000, with only six charter member companies. In 2009, we are now over 50 Owner member companies strong. Through volunteer and staff effort, we have established a foothold in the construction industry that enables us to speak as the Voice of the Owner in one of the most exciting and challenging times that has ever existed in our industry.

In an effort to help you, our industry stakeholder to achieve greater success in your professional life, many have given their time, money and talents. I want to take a moment and thank the many people and organizations that contribute on a daily basis to help you achieve the highest levels of improvement and success. They include the following:

CURT Board of Trustees

CURT Executive Committee

CURT Committee Chairpersons

CURT Committee Participants

CURT Task Forces

CURT Associate Members and Association Members

CURT Designated Representatives

The Hard Working CURT Staff

As we move forward into 2010 there is still much to do and a lot of opportunity to get involved in finding and creating solutions. We still need good leaders. Are you interested in LEAN Project Delivery? We have an opportunity for you to get involved. Are you interested in BIM and Process Transformation? Ask me how you can engage. Are you interested in improving safety or engaging in improving workplace productivity? CURT has a place for you. Take a look at our initiatives and committees and let us know where you would like to get involved this coming year.

Become involved in being part of creating a living legacy for industry change!

Greg Sizemore, Esq.
CURT Executive Vice President

Through
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in the construction industry that
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Owner in one of the most exciting
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Membership Categories

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Construction Owner: Any industrial or major commercial user of construction or maintenance services who spends at least \$75 million annually as a corporation. The company must be represented by at least one high ranking corporate policy maker usually the vice-president or corporate manager of construction or engineering.

ASSOCIATE MEMBERSHIP

Contractor, Subcontractor, Specialty Contractor, Supplier, Service Provider: From time to time the Board may create a number of Associate Members positions. Provided space is available, Associate Members may be recommended by an Owner/Member and the recommendation must be accompanied by two letters of recommendation and be approved by a 2/3 majority vote of the Board.

ASSOCIATION ASSOCIATE MEMBERSHIP

Any not-for-profit national trade association, research organization, or educational organization that provides services to the industrial or commercial construction industry may be eligible for membership in CURT and submit an application to join, provided they meet the Association Associate Membership requirements established by the Board of Trustees and an opening in this category of membership becomes available.

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For more information, call toll-free at (888) 934-6474 or (202) 637-0798 or visit us online at www.LMCIonline.org.

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CURT Comments

Here CURT Officers, Board of Trustee Members and Committee Chairs voice their opinions on why you should be involved with CURT.

CURT Officers



Egon J. Larsen

CURT President
AIR PRODUCTS AND
CHEMICALS, INC.
Global Construction Manager
Allentown, PA

"The problems from the crisis over the last two years have come to the surface; there is probably little new information left to be revealed. The recovery from those issues is just beginning so the economy is stabilizing as evidenced by the improvement in the stock market but dealing with the issues has just begun. It will take years to fully absorb the damage in the labor markets, changing certain industries forever. Most economist agree that getting back to 4 to 5 percent unemployment will take years because it is not just about improving spending but also about replacing jobs that will no longer be there because of permanent changes in industry. For the construction industry, there is now a reprieve from the labor crisis in construction, but it is only temporary. As an industry we have to take advantage of this and also take the opportunity to repair our labor supply.

At CURT we have expanded and adopted our services to accommodate members short-term constraints for costs, allowing them to continue to participate. We have developed conferencing capabilities for those who cannot travel to meetings, virtual meetings for our committees, and improving our website with expanded information and options to participate. We continue to have timely and relevant trends and information available through all of these channels while still keeping the face-to-face meetings for the traditional interaction model. New topics and committees are being reviewed and formed that will assist our members to better survive and eventually thrive through the current crisis."

Egon Larsen is responsible for Air Products and Chemicals, Inc.'s construction activities totaling approximately \$700M annually. This includes locations in the Americas, Europe, Asia and the Middle East. With over 25 years of experience in managing projects and construction, he has been instrumental in numerous capital project initiatives and development programs.



Michael G. Conley

CURT Vice President
DUPONT ENGINEERING
Manager, DuPont Project Engineering Center
Wilmington, DE

"CURT has responded to the financial crisis in multiple ways to provide value to our members. Our committees—even prior to this financial issue—had been working on areas of the industry that provide value in any business climate; safety, work force, LEAN, 3XPT, etc. These work streams can provide even greater benefit in times like today where efficiency and effectiveness is critical on all work.

*We have quickly brought focus to this issue through our workshops and National Conference. As early as February 2009, we held a workshop on the economic downturn and its impact on construction. And the theme for our National Conference this year, *Surviving and Thriving in Today's Construction Industry*, is clearly aimed at helping members understand what is happening in the industry and to provide thoughts, ideas and practices on how to deal with it.*

This crisis has had a significant impact on all CURT members. We have stepped up our activities in membership by modifying our contractor associate membership process and looking at multiple industry segments and companies for which owner membership would provide mutual benefit. We have modified the actual meeting practices to allow for 'virtual' participation due to pressure on travel costs and we just successfully held our first totally virtual meeting in September.

In short, CURT has worked to quickly adjust in several areas to ensure we can continue to provide value to our members. We rely on input from all participants to better understand the issues they face and how we can help. Please continue to share your thoughts with us."

Michael G. Conley has over 25 years of construction and engineering management experience. His career has spanned the United States and Europe, and includes construction, design, project controls, project management and business engineering management. He currently manages the DuPont Project Engineering Center, a unique organization whose goal is project execution excellence and the renewal of engineering skills within DuPont. In 2002, he became DuPont representative to the Construction Users Roundtable (CURT). He has served as co-chair of the CURT open shop subcommittee of the workforce development committee. Conley has also served on the Board of Trustees for the National Center for Construction Education and Research (NCCER).



Allen Bunner

CURT Treasurer
TYCO INTERNATIONAL
Director, Engineered Systems
Bath, OH

"In the short-term, it is evident that the economic slowdown has provided relief in commodity prices, and labor quantity and quality. The concerns for price escalation and experienced labor departing the workforce are not the issues they represented just a year ago. Unfortunately, the construction industry also is dependent on a fundamentally consistent economy, and financing options. The long-term effects are less clear, and are a key motivator for my attendance to the CURT National Conference. The answers will not be finite, yet the information and networking throughout the National Conference will provide keen insights into the future economic and construction issues we will face.

CURT anticipated the current issues facing its owners much earlier than many other industrial organizations. Owner inputs from major corporations provided hard facts that CURT needed to consider, and we did. As an example, CURT piloted the use of web-casting meetings. The September 2009 meeting event was offered solely as a web-cast. These changes attempted to reduce T/L costs for our attendees, expand our reach into the industry, and yet maintain the value of the organization for its members."

Bunner has had more than 30 years of mechanical and electrical contracting background, specializing in fixed fire protection systems, including more than 20 years focused in Special Hazards systems, and 15 years experience with International contracting and exportation of fire protection technologies.



Curtis Ashley Baker, P.E.

CURT Secretary
SOUTHERN COMPANY
GENERATION
Vice President, Construction
Birmingham, AL

"While most contractors are still working off the 2009 backlog, 2010 is looking like it will be more difficult. Indications are that we've hit the bottom and things are starting to look back up, but recovery will be slow. However, as an industry, we cannot lose our focus on workforce development, even in low-demand cycles. Even though demand is low right now, we need to be prepared for when things are back on track. If we don't prepare, we'll be back right where we were a year ago...without enough skilled labor."

Baker is currently responsible for the implementation of Southern Company Generation's environmental projects in Alabama, Florida and Mississippi, with project estimates totaling approximately \$3 billion. He has 28 years experience in Project Management and Construction in the Utility industry. Baker participates on the CURT Tripartite Initiative and the CURT Katrina Response Committee.

Board of Trustees



Steven B. Satrom

CURT President Emeritus
AIR PRODUCTS AND
CHEMICALS, INC.
Vice President of Engineering,
Energy Businesses
Allentown, PA

"The current economic downturn in the U.S. is creating both an opportunity and a danger for the construction industry as we look to address our long-term workforce issues. On one hand we have been given some additional time to get our act together and address the recruitment, career pathing and retention issues facing our industry. But we should not allow the current climate to mask the very real issues of an aging workforce and continued need for a highly skilled, diverse workforce to enable our success in the coming decade and beyond. CURT is doing its part with the launch of the Construction Workforce Development Center, as well as a continued focus on this issue by the Workforce committee. We need your support to make it a success, though!"

Satrom is responsible for Air Product's energy related Projects globally. He also acts as General Manager of the America's Engineering Center and has executive sponsorship of the Global Construction Management function. Satrom was the first President of CURT and one of the founding members. He was instrumental in establishing the initial focus for CURT, creating a viable entity and gaining industry acceptance and recognition necessary for it to become the "Voice of the Owner."



Charles G. Hardy
GENERAL SERVICES
ADMINISTRATION, CCM
Regional Recovery Executive
Chicago, IL

"This year's National Conference is packed full of great speakers, topics and networking opportunities. A quick look at the agenda outlines coverage on numerous hotbutton topics, including economic recovery, avoiding legal pitfalls, utilizing the latest technologies and ensuring safety success on job sites. This wide range of topics, which is only a snapshot of all the topics actually being discussed, is a one-stop-shop for attendees to learn about everything they need to know to ensure success."

Charles G. Hardy is a licensed architect and certified construction manager. Before joining GSA in 1991, Hardy was an architect with architectural firms in Florida and Illinois practicing in the areas of real estate development and office design. Additionally, Hardy is a retired officer of the U.S. Air Force Reserve.



Gregory L. Sizemore, Esq.
Executive Vice President
THE CONSTRUCTION
USERS ROUNDTABLE
Cincinnati, OH

"I would like to take this opportunity to thank everyone who made this year's National Conference a success! Firstoff, thank you to the Conference Planning Committee for taking an abstract theme and building an entire event from it! Second, thank you to the CURT staff who worked diligently to register attendees, sign-up sponsors, help exhibitors and handle all of the situations that came your way! And finally, thank you to the attendees who, despite a slow economy and budget cutbacks, traveled to Orlando to partake in this Conference. These attendees are the men and women who will travel back to their respective companies and organizations, and pass on the forward-thinking ideas that were discussed to managers and employees working to better our industry."

Sizemore has over 25 years of construction industry and association management experience. For eighteen years Sizemore has been the Executive Director of the Construction Owners Association of the Tri-State (COATS) in Cincinnati, Ohio, and, in 1989 Sizemore started Sizemore & Company, a construction industry association management and consulting firm. He was instrumental in the start-up of CURT and has served as the Executive Vice President since its inception. Sizemore serves on various industry and civic boards including the University of Cincinnati's Industrial Advisory Council, the Advisory Committee to the Albany Technical College, the West Virginia Construction Coalition Conference and the ACE Mentor Board.



Arthur Goehry
JOHNSON & JOHNSON
Director, Worldwide Engineering Services
Johnson & Johnson
New Brunswick, NJ

"The economic climate has impacted the overall construction industry in a substantial way. Projects have been put on hold, eliminated or restructured to address new business initiatives. Consolidations of properties are surfacing and should start to take affect during the next calendar year. New strategies, such as revising workplace strategies and how we utilize office space with new technologies, are also taking hold. Both of these new directions will create new construction and renovation opportunities for the industry which will need to be planned for, both from new design concepts and construction implementation methods."

CURT has responded as an organization to address the current economic pressures of its membership through regular use of remote communications. Several training sessions, as well as quarterly meetings, are now conducted via electronic tools. This enables members to stay engaged and allows us to progress with our annual goals. Just as important, CURT is assessing a recent survey of their missions, objectives and products to proactively respond and adjust to the current needs of the user construction industry."

Arthur Goehry has been with Johnson & Johnson for 26 years, holding various positions within Facilities, Project and International Engineering. He is currently the Director of Project Management in the Worldwide Engineering Group and is responsible for large capital projects throughout North and South America. Goehry has a Bachelors Degree in Civil Engineering from Lafayette College and a Masters of Science in Management Engineering from the New Jersey Institute of Technology (NJIT).



Norbert W. Young, Jr., FAIA
THE MCGRAW-HILL COMPANIES
President
New York, NY

Norbert W. Young, Jr., FAIA is also the National Conference Planning Committee Chairperson. See page 24 for more information.



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Patrick Duffy

Chairman
TAMPA ELECTRIC COMPANY
Manager, Project Management
Tampa, FL

"The economic downturn has hit construction harder than many other industries, and the negative effects have been widely reported. However, there has been a benefit to owners as bidding has become more competitive and commodity prices have dropped. One critical area to watch is talent loss. Our industry experienced a significant talent drain two decades ago, in large part due to multiple recessions. We already expect accelerated loss of knowledge due to our aging workforce. This issue coupled with another major exodus would have a long-lasting impact on the construction industry's effectiveness."

Patrick Duffy has been managing projects at Tampa Electric for eight years and is currently responsible for a program of maintenance capital and plant improvement projects of \$50 million to \$100 million annually. Before joining Tampa Electric, he spent 10 years with a large engineering and construction firm working primarily for the process industries. Duffy has been active with CURT since 2002. He is also the Past President of the Florida Construction Users Roundtable (FCURT).



LEAN Construction Committee



Albert Schwarzkopf

Co-Chairman
MERCK AND CO., INC
Project Engineer Global
Engineering Services
Durham, NC

"The current economic situation has impacted the construction industry both ways. In many ways, it can be better described as a catalyst for change. Service providers have to evaluate their business model to ensure they are continuing to be profitable, and those needing service have to evaluate and prioritize the work being requested in order to maximize return on investment."

While no one company can change the direction of the economic ship, CURT can help a given organization maximize profitability. CURT provides a forum for owners to openly discuss ways to improve their business. This includes programs that improve safety performance, developing a better skilled construction workforce, improving efficiencies in design, and reducing waste in project delivery programs. These activities encourage improved return on investment. It does not matter if you are a contractor, a designer or an owner, you can gain ideas and talk with people who have improved their business model. That is something real you can take back to your own organization."

Al Schwarzkopf has been with Merck & Co for 12 years and currently manages projects within the SE Region and Latin America for Merck. In his position he is responsible for all capital projects under \$5 million at the new Vaccine Manufacturing Facility in Durham, NC, and some additional projects throughout the Southeast region and Puerto Rico.

LEAN Construction Committee



George Lancos

Co-Chairman
JOHNSON &
JOHNSON
WORLDWIDE
ENGINEERING
& REAL ESTATE
(WWWERE)
Project Director
Vacaville, CA

"I think that CURT has evolved to adapt to the times. First and foremost, we have seen the organization lead the charge in new ways of doing things by conducting a membership meeting virtually. Using this in the future will assist every owner member company as they work through challenges to their travel and expense budgets. Further, the use of the WebEx capabilities for all of the team to better develop repositories of knowledge to enable transfer of information amongst team members has been an excellent tool."

George Lancos has been with Johnson & Johnson for 18 years. He has held various positions within Facilities, Procurement and Engineering throughout his career and is currently a Project Director within the Worldwide Engineering group. He is responsible for large capital project implementation on the West Coast.

Workforce Development and Industrial Relations Committee



Gerry Sprentall
 Co-Chairman
 INTEL CORPORATION
 CSC Operations Construction
 Manager
 Chandler, AZ

"Is the end of the recession in sight? Based on published information, construction spending is projected to stay at the current rates with confidence building slowly. With that said, the situation that was created in what seemed like overnight, will not correct itself for some time. The up-and-coming CURT National Conference "Surviving & Thriving in Today's Construction Industry" suggests the same concept that the end is not in sight, with improvement strategies the focus of today. Based on the theme of the Conference, the numerous web-based sessions offered, along with the dialog within the subcommittees, I believe that CURT is addressing current issues in realtime. CURT provides the forum for dialog among owners that are facing similar situations, offering opportunities to share success and failures for those owners that are passionate to be forward-thinking and innovative."

Gerald (Gerry) Sprentall is a Construction Manager for Intel Corporation. He has over 26 years of industrial construction experience, and began his career in 1981, working in nuclear power, petro/chemical, pharmaceutical, food and beverage, and for the past 12 years, the microelectronic industry. Active in a variety of professional organizations, Sprentall also serves on the NCCER Board of Trustees. He holds a Bachelors Degree in Industrial Construction Management from Colorado State University.



Safety Committee



Arthur Goehry
 Co-Chairman
 JOHNSON & JOHNSON
 Director, Worldwide
 Engineering Services
 Johnson & Johnson
 New Brunswick, NJ

Arthur Goehry is also on the CURT Board of Trustees. See page 20 for more information.

Safety Committee



Greg Landis
 Co-Chairman
 MERCK & CO., INC.
 Director - West Point Regional Engineering
 Merck & Co., Inc.
 West Point, PA

"The economic crisis has resulted in many changed plans for both new construction and renovations resulting in a reduction of planned construction. The uncertainty results in a reduction in proposed project starts which delays committing outside resources, negatively impacting the construction industry. Additional pressure to invest overseas means less opportunity to construct here and to employ U.S. construction workers. Each major industrial sector is at a different place so it's hard to make a general statement that the overall crisis is over. I would say some of the reductions in growth have been offset partially by stimulus money in the area of infrastructure. That said, many businesses impacted by the crisis will not successfully emerge, which means more needs to be done to solve the long-term problem of growing domestic business that can create meaningful jobs in the United States."

Greg Landis is Director - West Point Regional Engineering, responsible for development and implementation of laboratory and infrastructure/utility projects for Merck. He represents Merck's largest site related to capital management and infrastructure development. Landis holds a BS in Electrical Engineering from Spring Garden College.

Process Transformation Committee



Charles G. Hardy
 Chairman
 GENERAL SERVICES
 ADMINISTRATION, CCM
 Regional Recovery Executive
 Chicago, IL

Charles Hardy is also on the CURT Board of Trustees. See page 20 for more information.

National Conference Planning Committee




Norbert W. Young, Jr., FAIA
 Chairperson
 THE MCGRAW-HILL COMPANIES
 President
 New York, NY

"It doesn't matter where you look, the economy is still frontpage news. The CURT National Conference Planning Committee knows this, and we know how important it is for CURT members to have the most current information possible. As such, we have planned an agenda that is jam-packed with experts on the economy and the various factors that are affecting the economy today. The Conference is a must-attend event for anyone who wants to stay up-to-date and not fall behind the pack."

Norbert W. Young, Jr. is a registered architect who holds a Master of Architecture degree from the University of Pennsylvania. His professional affiliations include The American Institute of Architects, where he is a Fellow; the Urban Land Institute; the Construction Specifications Institute; and the International Alliance for Interoperability, where he served as Chairman of the IAANA Board of Directors. Young joined the McGraw-Hill Companies in December 1997 as Vice President, Editorial, for Dodge, bringing a considerable body of knowledge and experience to the company. Prior to McGraw-Hill, he was President of the Bovis Construction Group's Bovis Management Systems; was a partner at Toombs Development Company, where he managed all aspects of design and construction; and spent 12 years as a practicing architect in Philadelphia.

Young was named president of McGraw-Hill Construction, where he has instilled a spirit of innovation, involvement, and excellence to the organization and brought creativity and leading-edge thinking to the issues confronting MHC's customers. In recognition of the mark that he has made, Norbert received McGraw-Hill's prestigious Excellence in Management Award in 2003. ●

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Show me the Money:

How Can You Get a Piece of the Stimulus Pie?

Nine months later, one has to ask: is the largest one-time economic recovery effort in United States' history actually creating jobs? Well, it depends which side you talk to. According to recent reports from governors across the country, it is. Yet Republicans in Congress say it's not.

The debate over how much the American Recovery and Reinvestment Act of 2009 (ARRA) actually helped is sure to go on for years to come. There's no arguing the dollar value though: the Act specifies that 37 percent of the package is to be devoted to tax cuts equaling \$288 billion; and \$144 billion (or 18 percent) is allocated to state and local fiscal relief.

One of the biggest chunks of spending is on infrastructure, to the tune of \$80.9 billion. Over \$27 billion has been set aside for highway and bridge construction projects and \$750 million for the construction of new public rail transportation systems. Energy is close behind with \$61.3 billion, slated to fund projects like electric smart grids and investments in energy efficiency.



States and other recipients of stimulus funding have handed Obama initial grades for the Act (official reports will be made public by the time this magazine is printed). Did it pass or fail? Well, it depends on who you talk to.

In California, Gov. Arnold Schwarzenegger says that stimulus funds have created or saved more than 100,000 jobs. The nation's most populous state—and the world's eighth largest economy—was awarded \$12.7 billion in recovery money and has spent \$5.3 billion so far.

According to Gov. Schwarzenegger, "The funding will not only save and create jobs, but it will also help stimulate our overall economy, improve our transportation infrastructure and help us reach our environmental goals."

In Minnesota, which has spent \$1.6 billion in stimulus funds so far, 11,800 jobs were created and saved. And in Tennessee, the \$21.5 billion it has spent has saved more than 7,700 jobs. Overall, the federal government has so far made available \$256.3 billion, while \$110.7 billion has been spent. However, exact job creation numbers are hard to pin down. Precise numbers for the construction industry are even harder to locate.

Numbers indicate that the national unemployment rate for the construction industry rose to 17.1 percent as another 64,000 construction workers lost their jobs in September. This is according to an analysis of new employment data released in early October. According to Ken Simonson, Chief Economist for the Associated General Contractors of

America, 80 percent of layoffs occurred in nonresidential construction.

"The housing industry may be stabilizing but the broader construction crisis is only getting worse," Simonson said. "While the stimulus is helping slow the decline, it's clearly far from enough to reverse sweeping industry-wide layoffs on its own."

He continues, "We know from contractors' reports that stimulus money is beginning to flow, but what should be a torrent by now is only a trickle in most categories."

There is money to be had though...if you know how to access it.

Finding the funding

The best resources for anything recovery-related are Recovery.gov and Recovery.com. The first is the official government website, which outlines where dollars have gone and what projects are up for bid. When Congress approved the stimulus bill, it made a point of setting up a website to allow citizens to track all those billions in spending. It was originally launched in February, then was improved and re-launched again in September.

The dot-com version isn't run by the government, but it does track stimulus information. In fact, many have found that its information was more up-to-date because while the Federal government gave state and local governments until mid-October to report on their spending, privately-run recovery.com became popular with its real-time reporting.

However, if you're looking to actually find contracts to bid on, FedBizOpps.gov is the place to go. This site lists all federal

contracts of more than \$25,000 up for bid and companies and organizations seeking markets for their supplies and services can search, monitor and review these contracts. Additionally, a handy search option allows individuals looking for jobs to view the cities and states where contracts are being awarded and check on job availability in those areas.

Figuring out how to bid

While contracts available because of ARRA may be a beacon of light during tough times, many contractors and sub-contractors are quickly finding out that bidding on federal projects is much different than bidding on private jobs.

The reason is simple: the Federal Acquisition Regulation (FAR). However, FAR itself, isn't so simple. FAR is a system that consists of sets of regulations issued by agencies of the Federal government to govern what is called the "acquisition process," which is the process through which the government purchases (acquires) goods and services. This process consists of three phases: 1) need recognition and acquisition planning, 2) contract formation and 3) contract administration.

When a government agency issues a contract, it will specify a list of FAR provisions that apply to that contract. The lists may be long, and in order to be awarded the contract, the bidder must either comply with the provisions, demonstrate that it will be able to comply with them at the time of award, and/or claim an exemption from them.

For those who have bid on Federal contracts, FAR is nothing new. However,

Information on proposed projects available

In September 2009 Reed Construction Data released three reports of proposed Federal Stimulus Projects, which identify potential job opportunities through Ohio educational projects, New York state projects and a list of federal projects from the U.S. General Services Administration (GSA).

By registering at www.reedconstructiondata.com/fsp, visitors can download all three reports at no cost. The reports contain more than 8,000 proposed projects, including new construction projects as well as additions or alterations to existing structures.

Each report contains important project details, including title, location, project value, scope and notes, to help construction professionals identify new project opportunities. Federal stimulus projects have not yet been validated by Reed Construction Data and might not proceed to funding.

even experienced bidders should note two new regulations: the Business and Ethics Compliance provisions and the Employment Eligibility and Verification regulation. These requirements may require revisions to any firm's subcontract and purchase order forms.

Thomas J. Kelleher, Jr., Senior Partner for Smith, Currie & Hancock LLP, has extensive experience when it comes to government bids. As a member of the American General Contractor's (AGC)

Corp. of Engineers, Government Affairs, and Contract Documents committees, he knows the ins and outs of FAR and of bidding on ARRA projects. Kelleher cautions that, "Any contractor receiving a government contract in excess of \$5 million with a duration of 120 days or more (covered contract) shall:

- Adopt a written code of business ethics and conduct, and make it 'available' to each employee working on the covered contract;

- Exercise 'due diligence' to prevent and detect criminal conduct;
- Promote an organizational culture that encourages ethical conduct and compliance; and
- Make a 'timely' written disclosure to the agency inspector general with a copy to the contracting officer whenever the contractor has 'credible evidence' of a violation of the civil False Claims Act (31 U.S.C. 3729-3722) or of federal criminal law involving fraud, conflict of interest, bribery or gratuity violations."

He continues that, "Except for small businesses, every contractor must establish a business ethics and awareness program and an internal control system within 90 days of contract being awarded."

This program must include:

- Reasonable steps to communicate standards and procedures and provide training.
- An internal control system that includes standards and procedures to facilitate timely discovery of improper conduct, periodic risk assessments of criminal conduct, reporting mechanisms such as a hotline and disciplinary action for improper conduct or for failing to prevent or detect improper conduct.
- Disclosure of improper conduct to the federal government.

Kelleher says that, "Contractors must flow down these requirements to subcontracts and purchase orders in excess of \$5 million and 120 days' duration and verify subcontractor/vendor compliance."

Wading your way through all these requirements can be daunting even for the most experienced contractors. In response, ConsensusDOCS 752 Subcontract for Federal Government Construction Projects was drafted specifically to assist contractors and subcontractors meet new and complex federal laws and regulations.

This version, released this past spring, addresses new terms and conditions essential to comply with the Federal Acquisition Regulation (FAR). Seasoned federal government contractors, and especially contractors new to the federal market, are finding this new contract



"365 days a year without an accident?

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Marty Bruno, Skanska Environmental Health and Safety Director, New York City

Making every day free of accidents may be an ambitious target, but it's one Marty Bruno is committed to. "At Skanska, safety is a way of life, both at our jobsites and our offices," he says. "Protecting our people is our number-one priority; we want all our workers to go home safely at the end of each day." That's why Skanska implements an Injury-Free Environment (IFE) policy on projects before they even get underway. "Instilling safety measures into every phase of a project helps us identify potential challenges well in advance," Bruno explains. Our IFE philosophy increases safety awareness for all Skanska employees, ensuring that they work more safely than ever before. It's also a philosophy that many of our clients appreciate.

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document helpful when subcontracting federal work. The 752 addresses:

- Ethics Compliance;
- Federal Prompt Pay Act; and
- E-Verify.

Kelleher, who chaired the task force that drafted Consensus 752, says that the document is, "Tailored to meet the FAR requirements, including the two new provisions discussed earlier. It will likely be recognized throughout the industry as the first and only standard document addressing federal subcontracting."

Transparency, reporting, accountability

The \$787 billion American Recovery and Reinvestment Act (ARRA) is not only the largest single spending bill in U.S. history; it is also likely to be the most closely scrutinized initiative ever undertaken by the federal government.

In fact, one of the ARRA's guiding principles is ensuring transparency, reporting and accountability. The provision says: "To prevent fraud and abuse, support the most effective uses of ARRA funds, and accurately measure and track results, recipients must publicly report on how funds are used. Due to the unprecedented scope and importance of this investment, ARRA funds are subject to additional and more rigorous reporting requirements than normally apply to grant recipients."

FACT:

Prime and sub-recipients of Recovery Act awards have reported on how the money was used. As of October 10, there were 112,219 reports filed into FederalReporting.gov: 8,927 federal contracts, 102,901 grants, and 391 loans.

Source: FederalReporting.gov

J. Joseph Tyler, Director of Military Programs for the U.S. Army Corps of Engineers, says that one of the most important aspects of receiving money from ARRA is that its use must be reported on and documented. The Corps was directly appropriated \$4.6 billion in the act for its civil works program, and by mid-October, had also received \$2.93 billion for its military programs missions through the Department of Defense.

During his presentation at the jointly-held CURT/ENR Business Forum in Washington, DC, Tyler stressed the importance of accountability to the audience. He pointed to numerous factors that a contractor must be aware of if they're awarded a project, including, "All Recovery Act funds expended must be reported and the reports must be made available to the public, and contractors must report in a timely and accurate manner."

"The Corps' execution of ARRA projects has been highly successful. We are achieving the schedules we set and observing successful contractors hiring employees and making purchases required to complete the construction," says Tyler.

"Although contractor's are not submitting requests for payments as rapidly as expected, we see much progress in design efforts and mobilizing for construction."

Another presentation by the Corps to COATS' members provided a checklist of sorts, outlining the requirements contractors must meet if they're awarded an ARRA project. Once again, accountability is a top priority:

- All ARRA contractors (prime recipients and those sub-recipients to which the prime has delegated reporting responsibility) must register at www.FederalReporting.gov:
 - All primes and those subs with reporting responsibility need to register with name, phone number, email address, and organizational DUNS number.
 - All primes and those subs with reporting responsibility must register at least 35 days prior to end of the quarter.
- ARRA contractors must report on www.FederalReporting.gov with the cumulative contract award amount; cumulative amount paid by

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the government; the project name; description of the project; current completion status; cumulative jobs created or retained; and sub-award details:

- Reports must be submitted 1-10 October, 1-10 January, 1-10 April, & 1-10 July.
- 11 to 21 days after the end of the quarter, prime contractor reviews data submitted by subs and makes corrections. During this period, the Corps may "view the data".
- 22 to 29 days after end of the quarter, the Corps will review the data submitted and direct prime contractor and subs to make corrections.
- 30 days after the end of the quarter, contractor reports are made public by publishing on www.Recovery.gov.

“We know from contractors’ reports that stimulus money is beginning to flow, but what should be a torrent by now is only a trickle in most categories.”

In addition, the presentation noted the importance of the following:

- Contractors must be CCR Registered (www.ccr.gov).
- Make sure certifications are up-to-date and in the correct data bases:
 - HUBZone, SBD, 8(a), etc., see <http://sba.gov>.
 - Make sure bonding is in place (for construction projects).
- All solicitations more than \$25,000 are posted to Federal Business Opportunities (FBO) (www.fedbizopps.gov).
- FedTeDs has been merged with FBO therefore no longer exists. FBO now has the capability to accept sensitive information.

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What does the future hold?

Will billions in ARRA funding stimulate the economy into a full recovery? According to McGraw Hill Construction's 2010 Construction Outlook, the money will definitely help.

"The benefits from the stimulus act will broaden in scope, lifting not just highway construction but also environmental public works and several institutional structure types. With continued improvement expected for single family housing, after reaching bottom earlier this year, the

overall level of construction activity should see moderate expansion in 2010," says Robert A. Murray, Vice President of Economic Affairs for McGraw-Hill Construction.

Highlights of the 2010 Construction Outlook include:

- Commercial buildings will drop 4 percent in dollars, following a steep 43 percent drop in 2009. The weak employment picture will further depress occupancies, making it even more difficult to justify new construction.
- Institutional buildings will begin to stabilize after losing momentum in 2009. Square footage will retreat another 2 percent after sliding 23 percent this year. The dollar amount of construction for this sector will edge up 1 percent, helped by a growing amount of energy-efficiency upgrades to federal buildings and continued strength for military buildings.

- Manufacturing buildings will drop 14 percent in dollars and 3 percent in square feet, hampered by the substantial amount of slack manufacturing capacity.
- Public works construction is expected to rise 14 percent, given more wide-ranging strength across all project types.
- Electric utility construction will slip 3 percent, continuing to settle back after a record high in 2008.



"The stimulus funds are meant to be just that, a stimulus, not the be-all-end-all answer to infrastructure financing," says Frank J. Giunta, Senior Vice President and Managing Director of Hill International. "Both public and private sectors need to be innovative and rewrite the rules of project finance to address tremendous construction needs with minimal financing options."

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The Expansion of the Nuclear Energy Sector: Major Opportunity for Construction

By Doug Walters, Vice President,
Regulatory Affairs, Nuclear Energy Institute

The prospect of new nuclear energy plant construction in the United States and abroad represents a major opportunity to expand the nation's nuclear manufacturing base. American firms are already expanding their capability to manufacture nuclear-grade components and building new manufacturing facilities. In the process, they're also contributing substantially to job creation.

The U.S. electric industry is facing a formidable challenge. Consensus estimates show that the electric sector must invest between \$1.5 trillion and \$2 trillion in new power plants, transmission and distribution systems, and environmental controls to meet an expected 21 percent increase in electricity demand by 2030. Even with conservation and efficiency measures, hundreds of new, low-carbon power facilities need to be built to meet this demand. Even more are needed to replace existing power plants that use fossil fuels, which could be heavily penalized under a climate change and energy package being considered by Congress.

Nuclear Power Plants Provide More Jobs Than Other Sources of Electricity (operations jobs per 1,000 megawatts of generating capacity)

Nuclear	500
Coal	220
Natural gas	60
Wind	90

Source: Ventyx and U.S. Department of Energy (numbers are averages).

A portfolio of energy technologies will be required to meet our growing appetite for electricity, with nuclear energy and other low-carbon options at the top of the list. In fact, every credible analysis of the nation's energy challenge has found that no program to meet electrical demand and control carbon can move forward without an aggressive deployment of new nuclear.

According to the EPA's analysis of the American Clean Energy and Security Act of 2009 passed by the U.S. House of Representatives, the nation will have to build 180 new reactors as part of a comprehensive approach to meeting future electricity needs while reducing greenhouse gases 83 percent by 2050. At present, the U.S. Nuclear Regulatory Commission has received 16 construction and operating license applications for 25 potential new reactors totaling more than 30 gigawatts of generating capacity.

Nuclear energy facilities have a unique set of attributes that make them attractive as new energy sources. They are proven large-scale, low-cost power producers that, on average, are the most reliable plants on the electricity grid. In 2008, the average capacity factor for the 104 operating U.S.

nuclear plants was over 91 percent, and output of over 800 billion kilowatt hours represented nearly 75 percent of the nation's carbon-free electricity.

The ability of nuclear energy to provide reliable, affordable and environmentally friendly electricity has been recognized by other nations. Thirty other countries operate 339 commercial nuclear energy facilities. Today, 50 new nuclear energy facilities are under construction in 24 countries, and another 137 are on order or planned.

Even as the use of nuclear energy has expanded across the globe, no new nuclear plants have been ordered in the United States for nearly three decades because of political, economic and public opinion factors. Today, driven by strong public support (national polls consistently find that two-thirds of Americans support new nuclear facilities), concern about global warming, and the need for affordable, reliable electricity, new advanced nuclear facilities will soon be constructed in the U.S. creating tremendous opportunities in the manufacturing sector.

During the 1970s, the United States had the manufacturing capability to produce the large vessels, steam generators and



other major components necessary for nuclear power plant construction. Much of that capability—and the associated jobs—moved offshore. But the manufacturing capability in the U.S. nuclear sector is rebounding. In North Carolina, Indiana, Pennsylvania, Virginia, Tennessee, Louisiana, Ohio and New Mexico, among other states, companies are adding to design and engineering staff, expanding their capability to manufacture nuclear-grade components, or building new manufacturing facilities and fuel facilities. This is partly in preparation for new reactor construction in the United States and partly to serve the growing world market.

Last year, for example, AREVA and Northrop Grumman Shipbuilding formed a joint venture to build a new manufacturing and engineering facility in Newport News, VA. This \$360-million facility will manufacture heavy components, such as reactor vessels, steam generators and pressurizers. Global Modular Solutions, a joint venture of Shaw Group and Westinghouse, is building a fabrication facility at the Port of Lake Charles to produce structural, piping and equipment modules for new nuclear plants using the Westinghouse AP1000 technology. In New Mexico, LES is well along with construction of a \$3-billion uranium enrichment facility, scheduled to begin production this year. Even for ultra-heavy forgings, Japan Steel Works is expanding capacity, and companies in South Korea, France and Great Britain are planning new facilities.

Today, nuclear energy has become one of the few bright spots in the U.S. economy—expanding rather than contracting. Over the past several years, the nuclear industry has invested more than \$4 billion in new nuclear plant development, and plans to invest approximately \$8 billion more to be in a position to start construction in 2011-2012. The investment to date has already created 15,000 jobs. These jobs represent a range of opportunities—from skilled craft employment in component manufacturing and plant construction, to engineering and operation of new facilities. The number of new jobs will expand dramatically when the first wave

of new U.S. nuclear power projects start construction. The Nuclear Energy Institute estimates four to eight new plants will start construction in 2011-2012 and be ready for operation in 2016-2018, with more to follow.

Construction of eight new nuclear facilities would require between 4,000 and 24,000 nuclear grade valves, up to 150 miles of nuclear grade piping, 1,000-2,000 pumps, 500-1,300 large and small heat exchangers, hundreds of specialized nuclear components, more than 1,800 miles of cable, 3 million cubic yards of concrete, 700,000 electrical components, and 500,000 tons of structural and reinforcing steel. The expansion of the nuclear manufacturing sector to provide these components and commodities would have a positive impact for many companies, large and small.

Building new nuclear facilities will also greatly benefit the local economies. Each year, the average nuclear plant generates approximately \$430 million in sales of goods and services in the local community and nearly \$40 million in total labor income. And millions in state and federal tax dollars are generated that benefit schools, roads and other state and local infrastructure. Further, approximately 2,400 workers will be needed during peak periods of the four to six year construction. Once a new reactor is built, 400 to 700 people will be needed to operate and maintain each plant throughout its 60- to 80-year life span.

New nuclear facilities will cost from \$6 billion to \$8 billion, depending on which of five designs is chosen. Outputs range from 1,100 to 1,760 megawatts capable of powering from 1 million to 1.5 million homes respectively. But nuclear energy plants are expected to remain among the lowest-cost sources of electricity because of low fuel and operating costs and high capacity factors. This is supported by research performed by the Electric Power Research Institute, Energy Information Administration, and the state public utility commissions in Florida, South Carolina and Georgia, all of which have approved plans by electric utilities to build new nuclear facilities as the lowest cost option over the long-term.

The pace of new nuclear plant development, job creation, and expansion of the manufacturing sector depends on financing support from the federal government—particularly in today's tight credit markets. The loan guarantee program of the 2005 Energy Policy Act was a good step, but only a small step. The \$18.5 billion in loan volume might support three projects. Expanding the loan volume to support large-scale deployment of clean energy technologies including nuclear energy will plow billions of dollars into the economy, stimulate manufacturing, create thousands of great new jobs, and help our nation build its way out of the recession and into a low-carbon future.

The energy and climate legislation pending in Congress would help achieve these goals through establishment of a Clean Energy Deployment Administration that would function as a permanent financing platform to provide loans, loan guarantees and other credit support for clean-energy technologies, including new nuclear power plants, wind and biomass.

In the coming decades, we will be challenged to simultaneously meet rising electricity demand and reduce emissions of greenhouse gases. To meet this challenge, Congress must establish a comprehensive and sustainable national policy that supports the development of technology-based, zero-carbon solutions like nuclear energy, solar and wind that can be implemented in the near term and are affordable for consumers. ●

Doug Walters is Vice Present of Regulatory Affairs at the Nuclear Energy Institute (NEI), the industry organization responsible for establishing unified industry policy on matters affecting the nuclear industry. He assumed his current position in October 2009 and is responsible for several areas, including generic nuclear energy facility technical and management issues; safety-focused regulation and interaction with the Nuclear Regulatory Commission; used fuel management; material licensees; and activities supporting the development of new nuclear plants.

Starting the Journey Towards LEAN Project Delivery

By David Trent and Cynthia Tsao

The economic downturn has hit all of us hard. As owners attempt to retain employees, they may struggle to continue with Architecture-Engineering-Construction (AEC) projects as funds dry up. Meanwhile, consider AEC project execution over the last 10, 20, or 30 years—not just in work by craftsmen, but in administration and engineering as well. Have projects been delivered as *planned* in terms of schedule, budget, quality and safety?

Many owners seek to improve tools, reduce costs and get more done with less, but struggle with how to go about doing this. Others are keeping their employees busy with procedural reviews, inventory reductions and other worthy undertakings, but will these assignments have long-term, cultural benefits that will allow their organizations to thrive as market conditions continue to change? LEAN Project Delivery may be a key factor in reshaping the way you manage your AEC projects and increase your competitive edge in the new economy.

Make LEAN learning a corporate priority

The LEAN journey introduces an alternative philosophical and cultural approach to managing your business, so it is crucial that LEAN learning starts from the top of your organization. Leadership can begin learning about LEAN manufacturing from books such as “The Goal” (Goldratt and Cox 1992) and “How Toyota Became #1” (Magee 2007), and articles such as “Decoding the DNA of the Toyota Production System” (Spear and Bowen

1999). In particular, consider forming a Study-Action Team™ (SAT) among your leadership to manage your organization’s LEAN learning. An SAT studies a book together and develops strategic action items along the way (Macomber and Howell 2009). With a basic background in LEAN manufacturing, leadership will be better prepared to learn about LEAN Project Delivery (LPD).

Visit other owners, designers and contractors with LPD experience

Reading about the difference between traditional project management and LPD is not as compelling as experiencing it firsthand. Have your leadership visit companies that have extensive LPD experience to observe LPD in action by walking the job site and sitting in on planning meetings and training exercises (Figure 1). Only then will your leadership begin to appreciate the philosophical and cultural shift brought about by LPD. Without such insight, LPD may be misperceived as just another set of tools. With this basic background in LPD, your organization should then decide if it is appropriate for your organization to work towards delivering your AEC projects on a LEAN basis. If not, then reconsider this question when market conditions change. If so, then...

Develop LEAN leadership and awareness within your organization

Leadership must accept the role of leader in your organization’s LEAN journey



Figure 1. A 7th Floor Planning Meeting. Photos courtesy of Baker Concrete Construction.



Figure 2. Foremen participating in a Last Planner™ Meeting. Photo courtesy of DPR Construction, Inc.



Figure 3. Specialty contractors and suppliers participating in a Last Planner™ Meeting. Photo courtesy of the Lean Construction Institute.

to move your organization towards true cultural change. Otherwise, LPD is just another tool. Leadership should demonstrate its commitment to LPD by publicly recognizing and rewarding successful steps in your LEAN transformation, especially when the cultural shift begins. Leadership must also be open to the elimination of waste and generation of value, no matter where it is found in your organization!

Foster LPD champions within your organization

Leadership should designate energetic, motivated employees as LPD champions, invest in their education and support their LPD efforts. LPD champions can help you stay on track during your LPD journey by identifying LPD principles (e.g., reliability, transparency and continuous workflow), tools (e.g., BIM, Value Stream Mapping), and techniques (e.g., 5S, The Last Planner System® developed by the LEAN Construction Institute) that are appropriate for your organization. Value Stream Mapping identifies value-adding vs. non-value-adding steps that transform resources into finished products (Rother and Shook 1999). 5S is a simple, yet effective methodology for organizing workspaces (Imai 1997). The Last Planner System™ is a systematic approach focused on ensuring reliable delivery of projects (Mossman 2009).

LPD champions can also train your entire workforce to communicate to leadership opportunities to reduce waste and generate value. Supporting such LEAN awareness brings about the best ideas from those that actually work in the process (Figure

2), not just those that manage it! If your organization is unable to foster enough LPD champions internally, consider hiring a LEAN consultant to accelerate your journey—many companies have noted this is worthwhile for both companies and project teams.

Take the pulse of your organization

As your organization embarks on the LPD journey, assess your organization's organizational readiness for change. Survey your employees about their freedom to identify waste, suggest improvements and their perception of your organization's willingness to change and adapt less wasteful approaches to project delivery. This last item may seem obvious, but many of us can tell stories about when management inflexibility has impaired the implementation of positive change within our organizations!

Balance cultural evolution with action

LPD, in and of itself, is not a "tool". Rather, it embodies a philosophical and cultural shift in delivering projects by adhering to principles that support waste reduction and value generation. LPD teams achieve these principles through the use of a number of enabling tools and techniques. Facilitating cultural change before moving forward with implementing LPD tools and techniques does work, but it takes time. Engineers and project managers, however, are results-oriented, and they may be eager to start LPD implementation. Thus, teams that carefully balance cultural evolution with action (via the use of LPD tools and techniques) may be able to accelerate your efforts in LPD.

Use LEAN to improve your organization internally

Even before your organization as a whole embraces LPD, you can begin working towards LEAN in a limited manner by having your workforce identify ways to improve your organization's internal administrative processes. Enable your LPD champions to lead your workforce through popular LEAN techniques such as Kaizen events (e.g., focused efforts to improve small-scale processes within a few days) (Imai 1997), 5S, and Value Stream Mapping to bring new ideas for improvement to the surface. Once these LEAN techniques help streamline your organization's internal administrative processes, your workforce will be better prepared philosophically and culturally to try LPD tools and techniques. LPD uses an alternative set of principles and techniques (some developed in LEAN Manufacturing) to guide the development and execution of AEC projects.

Involve key specialty contractors and suppliers earlier

LPD advocates involving specialty contractors and suppliers (especially those that have considerable influence on your project's success) earlier in your project timeline. Doing so allows these vendors to share their expertise and insight during project definition and design, and the subsequent benefits gained by your project will likely justify the costs to involve these vendors at the project onset.

Specifically, your LPD champions should involve key specialty contractors and suppliers in your organization's efforts in:

- Value Stream Mapping to improve how work gets handed off between your organization and your AEC vendors during design, fabrication, and installation.
- Target Value Design to determine how to collaboratively design the project to a target cost while maximizing value for your organization (Macomber et al. 2007).
- The Last Planner System™ to manage the making and keeping of commitments and

making tasks ready for reliable execution of work plans (Figure 3).

Join LEAN communities for support

As your employees turn a critical eye on your internal administrative processes and external approach to AEC project delivery, your organization should join LEAN communities for support. CURT has an active LPD Committee and organizations such as the LEAN Enterprise Institute and LEAN Construction Institute provide training workshops as well as national and regional chapter meetings for companies to learn from each other as they embark on the LEAN journey. Furthermore, some states and academic institutions also manage LEAN consortia to help companies on their LEAN journey.

Develop metrics to measure improvements

Plan, Do, Check, Act (PDCA) must become a part of your organization's culture. Ask your LPD champions to develop new metrics that measure and validate the impact of your changes. Instead of measuring a project's status, these metrics should be geared toward measuring the improvement process. Establishing baseline metrics (e.g., "how long does it take to develop conceptual process data for inclusion into RFPs?", "how many iterations

between work groups does it take to properly prepare an RFP?", or "how many promises were kept compared to the promises made?") should be a part of your LPD process.

The real world is cost-and-value-driven. Executives will not fund even the best processes if they cannot prove to save time, reduce costs, or increase market share. Thus, LEAN leadership must always document the improvements made to justify the costs of working towards LPD.

How do you know that you have succeeded?

You have succeeded when your organization embraces reliable flow of all processes, with a focus on sustained, continuous improvement, providing customers with custom products, exactly fit for purpose, delivered instantly, with no waste. Most importantly, when your organization's culture recognizes that there is no end to the AEC project delivery improvement process, then your organization is poised for agility, resilience, and leadership in a global economy. ●

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Getting the Most for Owners in

By Arthur C. Silverman, Esq., Partner, Duane Morris, LLP.



Forty years of “lawyering” as a construction attorney, following my training as an engineer, have taught me a number of important lessons that I would like to share with members of the Construction Users Roundtable. The focus of this article (which mercifully, has no footnotes) is to describe some of the ways by which an owner’s investment in competent legal counseling and careful, detailed and complete contract negotiations will save an owner what my experience tells me is at least ten percent (and often far more) in construction costs, achieve better results, and be spared untold misery and diversion of attention that results from expensive and problematic dispute resolution.

Many of the lessons I’ve learned in four decades have caused me to reject much of the standard fare that most owners have come to expect and that they have adopted and stuck to over the years. At the risk of offending some, here goes.

No two projects are alike. Each project has its particular and often unique problems: site location, geotechnical issues, budget limitations, time constraints, environmental concerns, requirements of institutional or private equity financing, limitations of corporate policies and legally required public disclosure, joint venture concerns, inadequate financial resources of contractors and design team members, warranty requirements, technical design and construction difficulties, design and construction coordination, regulatory and sovereign requirements, political issues—you name it. Interior construction in existing structures bears almost no risk-allocation similarities to core and shell construction; and heavy construction, process plant construction, and power plant construction bear little similarity to building construction.

You, the reader, can make a list far longer than mine. Then add one other reality: construction and design agreements have to function well in governing the parties’ relationships over a fairly long period of time and have to adequately deal with matters and resolve disputes both predictable as well as unforeseen. In this regard, construction and design agreements are very different from, say, acquisition or sale agreements where, continuing warranties aside, closing the transaction means that the contract requirements are essentially concluded.

The reality that projects are different and raise different and complex issues leads to the following advice:

First, the owner must be represented by a thoroughly knowledgeable construction **transaction** lawyer. That lawyer should indispensably have had training as a construction litigator. Most importantly, however, he or she should have had years and years of experience in negotiating and drafting design and construction agreements. This is not common among construction lawyers, most of whom are litigators first and foremost.

Construction Contracting

The skills of a litigator are quite different from the skills of a contract lawyer. The expertise of the former is as an advocate and legal warrior; the expertise of the latter is in the ability to discern, negotiate and reflect clearly and unambiguously and by the written word the agreed and complete intention of the contracting parties. The experienced construction transaction lawyer representing the owner should be able to take a set of drawings and specifications, visit the construction site, and with minimal, if any, "tutoring" from the owner's engineering and project development staff (or their outside experts), understand the complexities of the project and the areas of significant owner risk. The construction transaction lawyer should also be focused on the design and construction process and risks in a business-oriented and practical context. He or she will work closely with, but will not be, a real estate lawyer or a project development or project finance lawyer who typically has little practical experience in construction issues.

My experience has been that no matter what the expertise of these lawyers, they are no match in a negotiation or in drafting for an experienced construction transaction lawyer. Often they may focus on irrelevant issues, miss others, and have an inadequate appreciation of the practical demands and realities of the design and construction process itself and the limitations such demands and realities place on the look-good contract provisions that are possibly useful as a theoretical matter but are often times utterly impractical and unusable in the real world of design and construction where process and momentum can override the most intellectually sophisticated lawyer's provisions.

Moreover, the lawyer who has only tangential experience in construction matters rarely knows, for example, a) where the contractor's pockets of profit exist (there are many such pockets other than fee); b) where gaps in risk allocation exist between the members of the design team, the contractor and subcontractors, and between each of the foregoing and the owner; c) what is achievable at any particular point in time and market conditions, regarding risk transfer (ultimately translating into cost) from the owner to the responsible design or construction team member; and d) what insurance products exist (including endorsements, exclusions, and limitations) or can be specially tailored to meet the owner's concerns as to retained risk.

Second, the owner's construction transaction lawyer should participate at the outset in the drafting of the RFQ (Request for Qualifications) and the RFP or RFB (Request for Proposal; Request for Bid), advise as to requests for information and clarifications, possibly be present during interviews and give appropriate input, and be available to advise during bid leveling. In this regard, the RFP (or RFB) **must** (the word "must" is used advisedly and does not mean "should") include the owner's draft construction or design agreement together with its general and special conditions. The owner's construction transaction attorney, working with the owner's legal staff and, if possible, with the office of the owner's chief financial officer, will also advise as to those portions of the RFQ or RFP (RFB) dealing with the contractor's or designer/consultant's litigation history, financial strength, resources and disclosure, ownership structure, labor relations policies, as well as employment and diversity issues; and, for the corporate

owner, will advise on policies concerning intellectual property protection, document ownership and licensing, non-disclosure provisions, and many other matters too numerous to list here.

Third, this is as good a place as any to state firmly that the owner's interaction with its construction transaction lawyer should be led not only by its senior construction or facilities officer, perhaps assisted by the procurement officer, but also and equally important, by senior members of the owner's legal staff and the staff of the chief financial officer. Construction involves cost, risk, dispute resolution and compliance with owner policies. In such a context, key decisions should not be left only to the engineering or facilities staff.

Fourth, experience has convinced me that the owner and its attorneys **must** control the drafting of the contract. Where there is an RFP (RFB) and where the RFP (RFB) includes the owner's draft contract and its general conditions, control by the owner of the drafting is established at the outset. In this situation, the negotiating leverage is with the owner since, in the RFP (RFB) the owner will require the proposer or bidder to state with specificity in the proposal or bid each objection to the proposed contract (including its general conditions), failing which the proposer or bidder will be barred from making any further objections during negotiations. The responses will reveal much. In particular, the owner will easily discern at once how much risk the contractor or designer is willing to take for its activities and the extent to which the contractor or designer will seek to change an at-risk contract into an inappropriate no-risk or less-risk contract. Even where the RFP (RFB) does not contain the owner's draft contract, the

first draft of a contract should always come from the owner, never from the designer or contractor, with the owner's contract being the basis for negotiation. The owner will always do better with the other party responding to the owner's draft agreement rather than vice-versa.

Fifth, under no circumstance should any bid or proposal be accepted or work be commenced that commits the owner in a practical way (even if not legally bound) to the contractor or designer without a fully negotiated and signed agreement. If this underlined "rule" is not followed, the reality is that all negotiating leverage that the owner needs has been lost—irretrievably. Once leverage is lost, the owner is in many ways at the mercy of the designer or contractor. I can say categorically that whenever a client failed to heed this "rule," the client has paid dearly! When the designer or contractor "wants the job," the designer or contractor is in a selling mood and mode and the leverage is with the owner during negotiations. When the

designer or contractor effectively knows that it "has the job" and is already working at preconstruction, the leverage is lost—immediately!

Sixth, essential to an owner's control of the drafting is that forms produced or sponsored by professional or contractor organizations generally should **never** be used. I expect a lot of flak for this statement, but I stand by it. "Never" is a pretty strong word, but it is what I believe, based on experience. These form agreements are moderately to severely unprotective, in my opinion, of the owner's interests. My experience is that a) riders and amendments inadequately amend the forms as a substantive matter, and b) the complex interplay between form and rider or form and amendment creates intended as well as unintended ambiguities and inconsistencies which usually are to the owner's disadvantage.

As to the ConsensusDocs suite of agreements, and the philosophy on which they are based, there has been insufficient

expertise in the use of them to make predictions or to rely on experience. Suffice it to say here that I prefer a complete contract whose provisions have been vetted through thorough intense negotiation to one which is premised on good-faith collaboration and reasonableness. "Collaboration" and "reasonableness" are noble words, for who does not want to be reasonable or collaborative? However, I suggest that the owner will pay dearly for the concept and discover that where dollars are concerned, those with the leverage (the designer/consultant and the contractor) during the construction process will be advantaged by collaboration whilst the disadvantaged party may well be the owner. In contrast, thorough vetting of the contract issues at a time when the leverage is with the owner will generally result in each of the parties fully understanding the risk allocation and the requirements of the deliverables. The time for contentiousness, if there has to be any, should be during negotiations and not during the project.



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Seventh, I am of the firm view that in progress payment processes and in dispute resolution, the role of the architect or engineer should be limited to determining technical requirements, design intent, and compliance with technical and design matters. It is a big mistake for an owner to do otherwise. As to all other matters, there should be delegated to the design team no quasi-judicial role whatsoever. The reasons are obvious and need not be elaborated here.

Eighth, it is essential that the contract with a) the contractor or b) the construction manager and trade contractors be an integrated whole, inclusive of general and special conditions, and inclusive of Division 1 (or the equivalent) of the project specifications and notes on drawings.

Too often, I have seen differences among these provisions, whether or not interpreted with the aid of clauses purporting to set priorities among competing or inconsistent provisions, operate to the clear cost disadvantage of an owner. It is my view that the construction transaction lawyer should review and carefully integrate not only his or her own work on the contract and the general conditions that he or she has drafted, but also should examine carefully and redraft as necessary the design team's Division 1 specifications and drawing notes. Ideally, what should occur is that the contract's general conditions should be integrated into Division 1, and the preparation of Division 1 should be the responsibility of the owner's construction transaction attorney and not the specification writer for an engineer or architect.

Conclusion

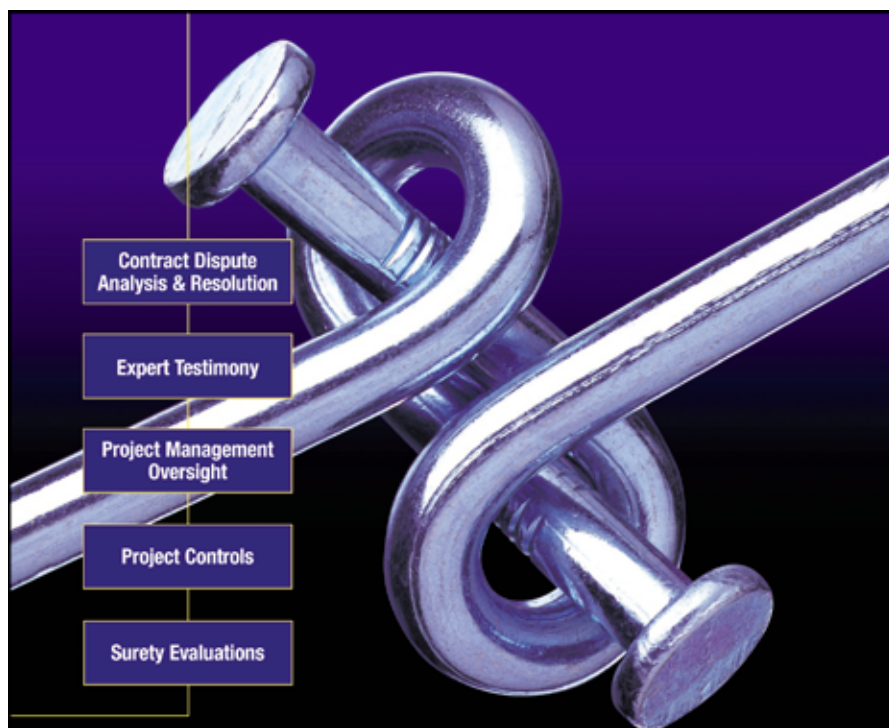
Achieving its goals of time, cost, quality and performance is what is critical to an owner. A complete and intensely negotiated contract prepared by an owner's experienced construction transaction lawyer, where the contract is controlled by the owner from inception through negotiation, will invariably save the owner considerable money and misery. Further, a complete agreement—without the use of forms and fully integrated with other contract documents

will minimize (and usually obviate) expense and time consuming dispute resolution by vetting in advance the material issues and reaching advance agreement that resolves the issues. These are some of the broad principles of successful construction contracting from the owner's point of view. ●

Arthur Silverman, a partner in the New York City office of Duane Morris LLP, specializes in construction transactions

and advice. After obtaining an M.I.T. engineering degree and a Columbia University law degree, he clerked for the Chief Judge of the U.S. Court of Appeals for the Second Circuit, became a litigator, and then specialized in representing large contractors, consultants, owners and developers, both institutional and private.

The preceding article does not necessarily reflect the opinion of CURT or its Board.



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KCUC: Bringing Together the Construction/Maintenance Industries

By Michael Sleder, KCUC Chair



The Kentuckiana Construction Users Council (KCUC) is an organization of companies in the greater Louisville, Kentucky and southern Indiana area. Originally founded as an owner organization, KCUC was chartered in January 1972 as a non-profit corporation affiliated with the Business Roundtable with the goal of promoting better safety, greater efficiency and effectiveness, higher quality, and lower costs in the construction industry. KCUC currently participates as a Local Users Council (LUC) in the Construction Users (CURT) network. KCUC has expanded its membership to include both non-industrial owners, such as the local school district, and also contractors, contractor associations, material suppliers, and professional firms as associate members. Our mission is to bring together all segments of the construction/maintenance industry to the table.

Since its founding, KCUC has operated almost exclusively as an all-volunteer organization with no paid staff members or employees. This operating model poses the challenge of attracting and maintaining members who are dedicated to the organization by giving their time and expertise to ensure a viable and ongoing council; comprised of both owner companies who will support the organization and owner representatives who will serve as council leaders. Recently, owners have cut costs for non-direct business expenditures like organization dues and owner personnel have taken on additional work responsibilities, which leave them with little or no discretionary time to dedicate to an organization like an LUC.

LUCs may, therefore, need to employ several strategies to "survive and thrive". Perhaps most important is to engage members in the organization and to ensure that the organization is aligned with members' needs and the changing

environment. One strategy is to identify a compelling local issue which energizes the organization. Initially, KCUC worked for years to promote owner issues of construction safety and cost effectiveness. In the late 1980s, we were a leader in the successful effort to establish a standardized substance abuse test card that would be acceptable at multiple owner locations. Years later, KCUC addressed the compelling issue to develop a contractor safety orientation program to minimize the time and effort spent by both owners and contractors on basic safety orientations, to improve the quality of the orientation the contractors received, and to improve the overall safety performance of our workforce over time.

In June of 2000, KCUC brought together owner and provider groups to resolve this issue. We evaluated several options (including creating our own local program) before KCUC partnered with the Association of Reciprocal Safety Councils (ARSC), whose Basic Orientation Plus™ program provides a well-documented, auditable and consistent approach to safety orientation with a reciprocity protocol in which all companies requiring their card agreed to accept a current cardholder regardless of where they earned it. We also worked closely with Evansville, IN owners to help them form an owner organization, and sponsored their application for this reciprocal safety orientation program. Our efforts culminated with CURT recognizing KCUC as the first LUC recipient of a Construction Industry Safety Excellence Award in November 2003.

Our current compelling issue is workforce development, with particular attention being paid toward high school students. To ensure the future viability of our industry, we believe

that students need to be informed and encouraged regarding both trades and technical (engineering, design, architecture, construction management, etc.) opportunities. Our members are actively involved in the following initiatives:

- Formation, leadership and support of a local ACE Mentor Program, which is designed to increase the awareness and interest of high school students in architecture, construction and engineering (ACE).
- Creating an E-Mentoring partnership with the Jefferson County Public Schools, which utilizes the Internet to allow our members to mentor high school students on various subjects and questions the students have, with the goal to enhance and maintain students' interest in the construction/maintenance industry as a career choice. In addition, KCUC provides both financial aid and materials to two high school construction-related magnet programs.
- Serving on the school system's High School Engineering Curriculum Design Team, which is charged with developing the engineering/design/architecture curriculum for the three technical magnet high schools.
- Serving on the planning/steering committee and co-sponsoring the annual Consortium of Business, Contractors, Government, and Apprenticeship Programs, an all-day event addressing regional workforce needs and challenges.

Further engagement of our members occurs at our monthly breakfast meetings featuring a guest speaker on a timely industry

continued on page 57

Credentials **MATTER**



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Gerald Sprentall
Construction Manager
Intel Corporation

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THE HISTORY:

More than a century ago, 30-year-old Dr. Wallace C. Abbott, a practicing physician and drug store proprietor, founded the Abbott Alkaloidal Company. Using the active—or alkaloid—part of a medicinal plant, he formed tiny pills, called “dosimetric granules,” which provided a more accurate and effective dosing for his patients than other treatments available at the time. The demand for these accurate granules soon far exceeded the needs of his own practice and from these modest origins was born Abbott.

Today Abbott is a global, broad-based health care company devoted to discovering new medicines, new technologies and new ways to manage health. Their products span the continuum of care, from nutritional products and laboratory diagnostics through medical devices and pharmaceutical therapies. Their comprehensive line of products addresses important health needs from infancy to the golden years.

Abbott has sales, manufacturing, research and development, and distribution facilities around the world. Throughout their 120 plus year history, Abbott people have been driven by a constant goal: to advance medical science to help people live healthier lives. Currently, more than 72,000 employees around the world share the passion for “Turning Science Into Caring.” It’s a commitment to focusing on what matters most: life and the potential it holds when we are feeling our best.

THE RIGHT NOW:

Despite a rocky world-wide economy, Abbott has grown in 2009. In October the company announced:

- Worldwide operational sales increased 8.4 percent.
- Worldwide medical products operational sales increased 16.2 percent. Worldwide nutritional operational sales increased 13.1 percent.
- International pharmaceutical operational sales increased 15.1 percent.

“Abbott is performing well, generating higher-than-expected earnings growth in the third quarter,” said Miles D. White, Chairman and Chief Executive Officer, Abbott. “During the quarter, we announced several acquisitions that support our long-term growth strategy. These acquisitions add to our diverse mix of global businesses, with new technologies, established products and emerging market infrastructure that will help us deliver sustainable industry-leading growth.”

THE SOCIAL COMMITMENT:

In September 2009 Abbott reported further progress in meeting its goal of a 5 percent reduction in the amount of packaging used in its key products by 2013, part of a multi-faceted effort to minimize its impact on the environment. To achieve this goal, the company has launched, or is in the process of launching, more than 40 sustainable packaging initiatives across its nutrition, pharmaceutical and medical products businesses. The initiatives are driven by new standards and guidelines developed by Abbott that encourage increased use of lighter and sustainable materials in package design.

“Abbott’s sustainable packaging initiatives will reduce our environmental footprint through less waste in landfills, more

responsible forest management and fewer emissions. At the same time, it lowers cost, and, in some cases, reduces shelf space for our customers,” said John Landgraf, Senior Vice President, Pharmaceuticals, Manufacturing and Supply, Abbott. “Throughout the world, consumers increasingly expect the companies they do business with to be environmentally responsible citizens and Abbott is rising to that challenge.”

Earlier in September Abbott announced that it was included on both the Dow Jones Sustainability World Index and North America Index for the fifth consecutive year. This selection recognizes Abbott’s continued global leadership in responsible economic, environmental and social performance. As a member of the Dow Jones Sustainability World Index, Abbott is among the top 300 of the 2,500 largest companies worldwide in terms of sustainability.

THE AWARDS:

- Abbott Chairman and CEO Miles D. White named one of Barron’s World’s Best CEOs in 2009.
- Named one of America’s Most Admired Companies every year since 1984 by Fortune magazine.
- Ranked 80 on “The Fortune 500” list of the largest U.S. based corporations (based on 2008 sales).
- Ranked 118 on the Forbes 2000 list (based on 2008 figures).
- Ranked No. 15 in 2009 ranking of world’s 100 most respected companies by Barron’s.
- Dow Jones Sustainability Index: Listed among world leaders in economic, environmental and social performance five straight years (2005-2009). ●



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THE CONTRACTOR:

KBR, Inc.

THE WEBSITE:

www.kbr.com

THE HISTORY:

KBR's history can be traced back over 100 years when, in 1901, Morris W. Kellogg opened a tiny pipe fabrication business in New York that grew to become a world-class engineering firm known as M.W. Kellogg. Kellogg's engineering expertise led to new technologies that have since become the foundation for the petroleum refining and petrochemical processing facilities that are still a major part of KBR today. Another milestone in KBR's history was created in 1919 when brothers George and Herman Brown partnered with their brother-in-law, Dan Root, to start a construction business called Brown and Root. Brown and Root expanded their capabilities to become a renowned road construction company and general contractor.

Today, KBR employs over 50,000 people and is considered to be a leading global engineering, construction and services company supporting the energy, hydrocarbon, government services, minerals, civil infrastructure, power and industrial markets.

THE RIGHT NOW:

In July 2009 KBR announced that second quarter 2009 net income attributable to KBR was \$67 million.

President and Chief Executive Officer Bill Utt was happy with this achievement, saying, "I am pleased with the strong revenue and operating income growth over the same period last year, which contributed to KBR's solid earnings in the second quarter of 2009. Our cash balance increased \$156 million during the quarter to \$1.1 billion at the end of June 2009. Backlog remained solid



at \$12.3 billion with the end-markets showing positive indicators towards projects moving forward over the next few years."

In October 2009, KBR Inc. announced that it was awarded a contract by Suncor Energy, Inc. to provide turnaround services for Suncor's 2010 Turnaround project at its oil sands plant in Fort McMurray, Alberta, Canada. KBR Canada will provide turnaround planning, management and execution for the shut down and maintenance of the plant including direct-hire labor resources, management of subcontractors, and coordination of activities with the client workforce and other contractors on site during the turnaround. Additionally, the Turnaround Group, Inc. (TGI), a KBR subsidiary, will work with the KBR Canada team to contribute expert project controls systems, providing high-level technical capabilities in the areas of planning, scheduling, cost estimating and forecasting, along with change management and the crucial integration of KBR's activities with those of Suncor and other Turnaround participants.

THE SOCIAL COMMITMENT:

KBR, Inc. is committed to being an industry leader in corporate citizenship by developing projects efficiently and responsibly, and reaching out to communities through initiatives that

meet their needs and contribute to sustainability through jobs and training for local employees and subcontractors.

Sustainable initiatives include:

- With demand for electricity expected to double by 2050, KBR is focused on providing advanced methods such as TRIG™ gasification technology to convert low rank coal into clean coal energy for power generation, hydrogen for refining, and synthesis gas for ammonia, methanol and production of coal to liquid fuels.
- KBR believes that to remain a leader in the world market as well as develop a more sustainable future, it must be actively engaged in finding solutions to the problems facing the communities where we live and work. With a primary focus on environment, health, and education, we are able to leverage our commitment through volunteerism, support of non-profits, corporate partnering, and employee giving program.
- KBR seeks suppliers and contractors who add value to the company and the customers they serve. As part of this commitment, KBR continually seeks to provide opportunities for minority and women owned business enterprises who offer goods, subcontracting services, and professional services on a competitive basis.

THE AWARDS:

KBR was recently awarded two safety excellence awards during the Greater New Orleans Industrial Educational Council (GNOIEC) Contractor's Safety Excellence Awards event. KBR's Chalmette Refining site won the North American Industry Classification System (NAICS) Heavy Construction Award, which recognizes large jobsites that worked over 100,000 hours in 2008. KBR also received an award for its injury free performance at this site in 2008. ●



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THE ASSOCIATION:
The National Electrical Contractors Association

THE WEBSITE:
www.necanet.org

THE HISTORY:
The National Electrical Contractors Association (NECA) is the voice of the \$130 billion industry responsible for bringing lighting, power and communications to buildings and communities across the United States. NECA's national office and local chapters advance the electrical contracting industry through advocacy, education, research and standards development.

The electrical construction industry was still in its infancy when 49 contractors came together at the 1901 Pan-American Exposition in Buffalo, NY, to establish what would become the National Electrical Contractors Association. Together, these business leaders worked to develop a common set of standards for safe electrical construction, ethical business practices, and rigorous training for electrical workers.

THE RIGHT NOW:
Today NECA is a dynamic organization serving the management interests of the entire technical contracting industry. NECA CEO John M. Grau believes the association's continued importance can be found in its goals of industry service. "NECA was founded on the principles of fair competition

and building an industry—a sustainable mission that continues to guide everything we do as an association," Grau says.

Meeting the needs of clients and owners is behind everything the association does, from workforce training, to design-build tools, to integrated system design.

"NECA was founded on the principles of fair competition and building an industry—a sustainable mission that continues to guide everything we do as an association."

NECA's 119 chapters are independently chartered organizations that serve the NECA member contractors in their area. A contractor's NECA membership is first established at their local chapter level. National NECA membership is a benefit of chapter membership.

NECA chapters represent signatory electrical contractors in their area in developing effective labor agreements and market initiatives. NECA chapters fight for the collective rights of management to run their businesses in a fair and competitive market.

Chapters operate autonomously, elect their own officers, set their own dues and service charges, and determine their own priorities. Each chapter operates its own local programs and may provide services for its own members in addition to the national NECA programs.

THE FUTURE:
With our economy completely dependant on the electrical wires and

communication cables that connect businesses, public services and individuals, NECA and its member contractors have a vital role in protecting public safety and welfare. Electrical contractors are also responsible for making our country's vision for more efficient and sustainable power into reality. NECA has developed several resources to help members meet these demands.

"Innovation is a marvelous thing. Without it, our industry and country never would have progressed as far or fast as we have," Grau says.

THE SOCIAL COMMITMENT:
Sustainability is the major force shaping construction today, and energy efficiency and sustainable energy often have the greatest impact on just how "green" a building actually is. NECA supports a three-pronged approach of energy conservation, energy efficiency, and responsible energy production to help people and businesses meet their green building goals. Taken together, these energy solutions are a NECA contractor's commitment to both the environment and the customer.

THE AWARDS:
NECA publishes the award-winning magazine, ELECTRICAL CONTRACTOR and maintains the websites www.necanet.org and www.ElectricTV.net; and the ANSI-approved National Electrical Installation Standards. NECA's Management Education Institute is an accredited provider of continuing education. ECPAC, NECA's political action committee, is the largest specialty contractor PAC and one of the top 50 PACs in the U.S.

NECA is also the lead contributor to ELECTRI International, an international recognized industry research foundation. ●





The 2009 National Co

Surviving & Thriving in Today's Construction Industry November 16, 17, 18, 2009

MONDAY AFTERNOON, NOVEMBER 16

2:00 – 2:15 PM

Welcome & Opening Remarks

Jon Dutcher, Abbott, Conference Chairperson

2:15 pm – 3:00 pm

The Art of Vision

Erik Wahl, President & Founder, The Wahl Group

3:00 pm – 3:45 pm

How CURT and the Industry Help the U.S. Navy Deliver Fleet Readiness

Vice Admiral Michael K. Loose, Deputy Chief of Naval Operations for Fleet Readiness and Logistics (N4) Civil Engineer Corps, U.S. Navy

3:45 – 4:15 PM

BREAK

4:15 pm – 5:00 pm

Surviving and Thriving: The State of the Association

Egon Larsen, Air Products & Chemicals, CURT President

6:30 pm – 9:00 pm

Welcome Reception (Casual attire)

TUESDAY, NOVEMBER 17

7:00 am – 8:00 am

Breakfast

8:00 am – 8:15 am

Welcome & Opening Remarks

Jon Dutcher, Abbott, Conference Chairperson

8:15 am – 9:30 am

The Road to Economic Recovery: Are We There Yet?

David Wyss, Chief Economist, Standard & Poor's

9:30 am – 10:00 am

BREAK

10:00 am – 11:00 am

Concurrent Educational Sessions (Presented twice before lunch)

The Dollars and Sense of Economic Recovery: The Impact on Construction

Anirban Basu, Chief Economist, Associated Builders & Contractors

Ken Simonson, Chief Economist, Associated General Contractors

Jan Tuchman (Moderator), Editor In Chief, Engineering News-Record

Inflection Point - Defining the Future of the Worldwide Construction Market: An Owners' Survey

Mark Bridgers, Senior Consultant, FMI Corporation

Jeff Lukowski, Consultant, FMI Corporation

How to Avoid Legal Pitfalls on Projects: What Construction Managers Need to Know

Ned Parrott, Partner, Watt Tieder Hoffar & Fitzgerald, LLP

Vivian Katsantonis, Partner, Watt Tieder Hoffar & Fitzgerald, LLP

Teresa Magnus, CEO, Vulcan Industrial Contractors Co., LLC

Green Building in the 21st Century: The American Recovery and Reinvestment Act of 2009 and Beyond

Randall Erickson, Administrative Partner, Crowell & Moring, LLP

Stephen McBrady, Associate, Crowell & Moring, LLP

Christopher Cheatham, Associate, Crowell Moring, LLP

Planning Capital and Maintenance Projects with Confidence

John Elnitsky, VP-Generation & Transmission Construction, Progress Energy

Daniel Groves, Workforce Consultant, The Construction Users Roundtable

Carl McColey, Engineering Manager, DuPont



Conference Agenda

11:00 am – 11:15 am
11:15 am – 12:15 pm

Sean Pellegrino, Construction Manager, Chevron
Jim Porter (Moderator), Retired, DuPont
Increasing Capital Asset Value Through Integrated Technology Solutions

Joel Koppelman, Sr. Vice President & General Manager, ORACLE
Chuck Hardy, Regional Recovery Executive, GSA
TRANSITION BREAK

12:15 pm – 1:15 pm
1:30 pm – 2:15 pm

Concurrent Educational Sessions (Repeat of previous sessions and locations)

Lunch

Beyond BIM: Excellence in the Creation and Protection of Capital Assets

Frank MacInnis, Chairman and CEO, EMCOR Group, Inc.

Strategic Use of Capital in Today's New Markets

Jim Ellis, Engineering Director, DuPont
Kevin Reimer, Director of Construction, PSEG Power LLC
Allen Ware, Director Construction Materials & Services, Intel Corporation
Gary Warren, Vice President Worldwide Engineering, Johnson & Johnson
Jim Porter (Moderator), Retired, DuPont

3:00 pm – 3:30 pm
3:30 pm – 4:30 pm

BREAK

Concurrent Educational Sessions

Retaining Industry Expertise Through Effective Knowledge Transfer

Bryan Beischel, Engineer, Turner Construction Company
Lamont Johnson, Project Engineer, KBR
Rich Goodman, Project Superintendent, Turner Construction Company

Realizing Open Interoperability: ISO 15926

Jerry Gipson, Director Integrated Engineering Solutions Technology Ctr., Dow
Bruce Strupp, CPE-Design Technology Director, CH2M Hill
Norm Thurow, CIO, Zachry
Nicole Testa Boston (Moderator), Deputy Director, FIATECH

The Owners' Role in Achieving Crane Safety Excellence

Joe Crispell, Executive Vice President, NACB
Steve Greene, Vice President, NCCER

Taking the Industry LEAN: Implementation Tools and Strategies

Greg Howell, Managing Director, Lean Construction Institute

Awards Gala Reception (Business Attire)

CURT/CIF Awards Gala Dinner

Jon Dutcher, Abbott, Conference Chairperson, Master Of Ceremonies

Safety Awards Presentation

Art Goehry, Johnson & Johnson, Safety Committee Chairperson

Workforce Development Awards

Gery Sprentall, Intel Corporation, Workforce Committee Chairperson

Nova Awards Presentation

Tim Alter, Rudolph/Libbe Companies, Nova CIF Chairperson

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Jacobs
KBR
ONSITE OHS
ORACLE
Painters & Allied Trades (LMCI)
Rudolphe/Libbe
Turner

6:00 pm – 6:45 pm
7:00 pm – 9:00 pm

WEDNESDAY, NOVEMBER 18

7:00 am – 8:00 am	Breakfast
8:00 am – 8:15 am	Welcome & Opening Remarks <i>Jon Dutcher, Abbott, Conference Chairperson</i>
8:15 am – 9:00 am	Advancing the Competitiveness and Efficiency of the U.S. Construction Industry: A Special Report <i>Dr. Shyam Sunder, Director of Building and Fire Research Laboratory, NIST</i> <i>Ted Kennedy, Retired Chairman, BE&K</i>
9:00 am – 9:45 am	How Federal Construction Spending is Impacting the Industry: Public Owners Speak Out <i>Jonathan Blyth, Chief of Staff Bureau of Overseas Building Operations, DOS</i> <i>Scott Higgins, Chief of Design & Construction, Federal Bureau of Prisons</i> <i>Kevin Kampschroer, Director Office of Federal HPGB, GSA</i> <i>Joe Tyler, Senior Executive Service Director Military Programs, USACE</i> <i>Bob Volkman (Moderator), Consultant, The Construction Users Roundtable</i>
9:45 am – 10:15 am	BREAK
10:15 am – 11:00 am	Concurrent Educational Sessions Reducing Costs by Addressing Energy Issues in Design and Construction <i>Greg Kight, Director of Sustainability, Jacobs</i> <i>Al Musur, Manager Corporate Energy & Utilities Programs, Abbott</i> <i>Phil Powell, Director Energy Conservation Load Management & Alternative Solutions, Dominion Energy</i> Thriving by Implementing Effective Coaching and Mentoring Programs <i>Janice Urbanik, Construction Career Pathway Director, Greater Cincinnati Workforce Network</i> <i>Natasha McCurry, Project Coordinator, KBR</i> <i>Juan Reina, Principle Engineer, Tampa Electric Company</i> <i>Maren Gersich, Project Engineer, Abbott</i> <i>Samantha Gauthreaux, Senior Recruiter, Jacobs</i> <i>Tamikia Edwards, General Engineer, GSA</i> How to Improve Project Performance Using the Latest Tools & Products <i>Shari Davis, Manager Project Systems Management, Mustang</i> <i>Steve Lindholm, Consultant, The Construction Users Roundtable</i>
11:15 am – 12:15 pm	Surviving and Thriving Through Turbulent Times <i>Lisa Spahn, Facilitator, The Disney Institute</i>
12:15 pm – 12:30 pm	Closing Remarks & Critiques <i>Jon Dutcher, Abbott, Conference Chairperson</i>
12:30 pm – 2:30 pm	Farewell Luncheon
2:30pm – 4:30pm	CURT Committee Meetings & LUC Summit (Members & Invited guests)

The Construction Users Roundtable reserves the right to make changes in Conference sessions and/or speakers when conditions prevail beyond its control. Information distributed or contained in presentations is the sole responsibility of each presenter and does not necessarily represent the opinions of The Construction Users Roundtable or its membership.

2009 NATIONAL CONFERENCE EXHIBITORS

CURT would like to welcome all of the exhibitors who are participating in the 2009 National Conference.

- | | |
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Cutting Edge Collaborative Contracting: Why You Should Consider IPD

By Brian Perlberg, Esq.

Is the future of the construction industry here today? Green, LEAN, BIM and IPD are trends at the forefront of the design and construction industry, and all share one thing in common—collaboration. Integrated Project Delivery (IPD) has emerged as a new project delivery method that offers a more collaborative process to deliver better project results. Movement towards IPD partially originates from a dissatisfaction with the traditional design and construction process that is too often fragmented, adversarial, litigious and inefficient.

J. Doug Pruitt, President of the Associated General Contractors of America (AGC), characterizes the way we deliver construction as broken and in need of a fix. Today's typical construction contracts, which ultimately govern stakeholders' performance, are a large part of the problem. Contracts typically seek to push risk away and down the contractual chain, most often to parties in the worst position to control and mitigate risk or pay if a loss occurs.

A recent Canadian study by Zaghoul and Hartman estimates up to a 20 percent premium is added to bids just to cover the five most common exculpatory/disclaimer contractual clauses. Falling back on old approaches that may have been a mainstay for more than 120 years might seem like a known quantity, but staying with a losing hand does not advance our industry or even give us much of a chance to succeed.

IDM presents a new way forward by offering a different approach. ConsensusDOCS, a coalition of now 23 leading organizations, including CURT, Construction Owners Association of America, National Association of State Facilities Administrators, and AGC, is

AGC of America
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Quality People. Quality Projects.



committed to advancing contractual best practices, and created the first standard IPD document in 2007. IPD is a contractual relationship in which the principal parties—the owner, constructor and design professional—all sign the same contract. Rather than allocate risk to one party, IPD contracts actively manage and share risk at the macro project level.

J. Doug Pruitt, President of the Associated General Contractors of America (AGC), characterizes the way we deliver construction as broken and in need of a fix. Today's typical construction contracts, which ultimately govern stakeholders' performance, are a large part of the problem.

Experienced (and likely frustrated) owners already know that just about all project risk comes back to them eventually. IPD attempts to deal with this directly by requiring all project team members to row in the same direction. Participants are incentivized through project savings and improvements to achieve superior performance, rather than point fingers for faulty work. And for the first time, owners are actually in the boat rowing with the constructors and designers. IPD is a relational contract, which views construction

as an intersection of multiple relationships to achieve a successful project. This contrasts with a "one and done" transaction, in which each individual protects their own individual bottom line.

The ConsensusDOCS 300 Tri-Party Collaborative agreement remains the only standard multi-party IPD agreement. Multi-party IPD allows and encourages inclusion of key specialty contractors, such as HVAC contractors and design consultants, into the core management group through a joining agreement. At first blush, IPD may sound "touchy-feely," but a careful review of the ConsensusDOCS 300 demonstrates a detailed approach for cost control, constructability analysis, safety and quality management (and improvement), as well as overall risk reduction. An integrated project team strives to constantly drive out waste and inefficiency throughout the construction process. For instance, costly requests for information (RFIs) are virtually eliminated on IPD projects. The 300 is ConsensusDOCS' signature contract in its 90+ contract catalog because it best exemplifies how to flow the best practice and project-first mentality to the project team level.

IPD is not a magic wand and should not be oversold. IPD emphasizes active owner engagement, mutual trust and risk-sharing rather than risk shifting. Without committing to these critical elements, IPD might not be the right tool for you. If the Spearin Doctrine is your primary concern, then design-build might be favored. Moreover, a recent May 6, 2009, Engineering News-Record article on IPD contracts highlights a significant note

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Design-Build: Proven Project Delivery Through Established Contractual Arrangements



By Bennett D. Greenberg, Esq., and Z. Taylor Shultz, Esq.

Today, design-build (DB) is a preferred method of project delivery for many owners and construction industry professionals—and for good reason. A study conducted by the Construction Industry Institute found that DB projects are delivered faster, and at lower overall cost, than either design-bid-build or construction management at-risk projects.¹ Of course, delivery method is just one factor that influences the outcome of construction projects. DB is preferred because it is a proven method of project delivery.

Integrated Project Delivery (IPD) refers broadly to a project delivery approach in which all relevant project participants collaborate as a single team from inception to completion. DB and IPD are not mutually exclusive. All projects can benefit from enhanced collaboration, BIM and creative compensation structures that reward overall project success. Indeed, the DB model is uniquely suited to accommodate IPD principles.

Design-build contracts

On DB projects, the owner contracts directly with a single entity (the design-builder) to perform both design and construction services. Typically, the owner develops a criteria package that describes project parameters, performance requirements and the purpose of the facility. Based on this detailed description, the design-builder takes full responsibility for designing and constructing the project. The design and construction teams perform their work simultaneously through a direct contractual relationship.

This single-point responsibility means that the owner need not mediate between the conflicting interests and loyalties of the architect and contractor. If project goals are not met, the owner holds the design-builder directly responsible. Further, the early, face-

to-face, working relationship between the architect and contractor allows construction to start earlier and affords constant opportunities for innovation, trouble-shooting and value engineering.

IPD Contracts

There is little agreement within the industry regarding the best contractual architecture by which to realize collaborative vision of IPD. Competing IPD contracts proposed in the AIA C195 family and AGC ConsensusDocs 300 propose alternate methods of uniting owners, designers and builders. Theoretically, under an IPD regime, the parties will share equally in both the rewards of a successful project and the consequences of one that is not.

Design-build benefits and IPD limitations

Current industry IPD contracts face limitations that DB contracts do not. First, DB project delivery and DB contracts can accommodate virtually all project types, sectors and sizes—from small private commercial buildings to large public water treatment facilities. The IPD contracts proposed so far are applicable to a limited scope of project types because they require detailed and sustained owner-involvement throughout the design and construction process. Owners may end up spending more time or money—or both—simply to keep up with the contractually required design, construction and management group meetings. As a result, owners must dedicate more in-house personnel for a longer period or hire yet another construction consultant to serve as owner-representative. The intense level of owner involvement required for IPD is particularly problematic for public projects, which face both regulatory and bureaucratic hurdles to shared decision making and risk taking.

Second, unlike the DB contracts issued by Design-Build Institute of America (DBIA), the IPD contracts have not been well-tested by the industry or the courts. Several commentators have criticized the AIA C195 IPD structure in particular, noting that its indemnity clause may violate certain states' anti-indemnity statutes. Critics also highlight the risks of violating state licensing laws that restrict design work to certain types of companies. Still others have expressed concern that IPD contractual structures may run afoul of insurance standards, or that they cannot be adequately insured.

Finally, IPD contracts, while striving for flexible standards that encourage team-building over fixed rules that focus on project liabilities, can end up sacrificing the fundamental clarity upon which any agreement depends.

In the *Federalist Papers*, Publius counseled, "If men were angels, no government would be necessary." So too, with contracts. DB is a proven method of unified project delivery that relies on established contractual arrangement that establish straightforward priorities, obligations, rewards and consequences for all project participants, while remaining sufficiently flexible to work for many project types. ●

Bennett Greenberg is a member of the Design-Build Institute of America's (DBIA) Board of Directors. He serves as a partner and design and construction law specialist at Seyfarth Shaw LLP. Z. Taylor Shultz is a senior associate in Seyfarth Shaw LLP's Construction Practice Group. In November, he will co-present a seminar comparing DB and IPD at DBIA's 2009 Design-Build Conference and Expo.

REFERENCE

¹ See V. Sanvido and M. Konchar, *Selecting Project Delivery Systems*, pp. 13-19 (PDI, 1999).

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topic. This provides consistent networking and ideas-exchanging opportunities. We are also currently developing a members-only portal on our website, which will be populated with current industry news and point/counterpoint perspectives. Finally, members have an opportunity to enhance their team-working and leadership skills by serving on the Board of Directors, whose owner members hold either an officer position and/or a committee chair. And to further increase its awareness of industry issues to enable better planning and decisions at the local level, KCUC consistently sends one to three of its Board members to the CURT National Conference.

To survive and thrive, LUCs should develop multiple strategies to engage and meet the needs of their members, and to be visible and invest in their served communities. We hope that we have given you some ideas to consider and to spark discussion to identify others according to your circumstances. We need to view every industry problem and challenge as an opportunity. This is our industry and we believe LUCs are positioned to successfully address its issues and changes and to ensure its future. ●

Michael Sleder is the Chair of KCUC. For more information go to www.kcuc.org.

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of caution when considering what type of IPD approach to consider. AIA advocates a rather radical IPD approach in its published AIA C195/196/197 by requiring the creation of a single-purpose entity (SPE) LLC to deliver a construction project. This SPE approach raises potential problems related to licensing, insurance and legal enforceability.

Conversely, multi-party IPD contracts have already yielded impressive initial project results in both the U.S. and Australia, and don't carry the concerns inherent in the radical SPE approach. Therefore, multi-party IPD should be considered a significant new tool without having to take a risky leap of faith.

For a free excerpted sample of the ConsensusDOCS 300 and more information, go www.consensusdocs.org. Because CURT is a drafting member and endorser of ConsensusDOCS, CURT members can use promotional code "CURT200" for a 20 percent member discount on all purchases. ●

Brian Perlberg, Esq. is Senior Counsel for Contracts and Construction Law for AGC. Through the ConsensusDOCS coalition, he serves as the lead staff person to develop national best practice standard construction contracts.

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