

An International Leader in Project Management Consulting, Training and Technology Services for more than 35 years.

Strategic Planning - A Combination of Need & Capability - Part 3

A Project Management Maturity Model for Capital Project Organizations

Continuous improvement in capital project management organizations is based on many small, organizational development steps rather than revolutionary innovations. Pathfinder's Project Management Maturity Model (PM³) was designed to provide a framework for organizing these steps into five maturity levels that lay successive foundations for continuous process improvement.

These five maturity levels define an ordinal scale for measuring the maturity of an organization's capital project management process and for evaluating its organizational capability. The levels are also designed to help organizations prioritize their improvement efforts. A *maturity level* is a well-defined development plateau toward achieving a quality-oriented organization that is focused on continuous improvement. Each level provides a layer in the foundation for continuous process improvement. Each level also comprises a set of process goals that, when satisfied, stabilize an important component of the capital project management process.

Achieving each level of the maturity framework establishes an increase in the capability of the organization. Organizing the PM³ into the five levels shown in Figure 1 can assist organizations in prioritizing improvement actions for increasing project management process maturity.



FIGURE 1: Capital Project Management Maturity Levels

The labeled arrows in Figure 1 indicate the type of process capability being institutionalized by the organization at each step of the maturity framework.



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The following characterizations of the five maturity levels highlight the primary process changes made at each level:

- Elementary This capital project management process (CPMP) is characterized as ad hoc, and occasionally even chaotic. Few processes are defined, and success depends on individual effort.
- Repeatable Basic project management processes are established to track cost, schedule, and functionality. The necessary process discipline is in place to repeat earlier successes on similar or analogous projects.
- **3.** Integrated Application The CPMP for both management and engineering activities is documented, standardized, and integrated into the business processes for the organization. All projects use an approved, tailored version of the organization's process for developing and executing projects.
- **4. Managed** Detailed measures of the CPMP deliverables and product quality are collected. Both the CPMP deliverables and products are quantitatively understood and controlled.
- **5. Sustained Improvement** Continuous process improvement is enabled by quantitative feedback from the process and from introduction of innovative ideas and technologies.

The Four Dimensions of Capital Project Management Maturity The Capital Project Management Maturity Model is designed to measure the capability of an organization to deliver capital projects that add business value to a venture. This capability consists of a tetrad of dimensions that must be analyzed. These dimensions include:

Process Goals – this dimension examines the importance and alignment of the core processes with the external (business) goals of the customer and to the internal (organization) goals.

Process Outputs – this dimension examines the core process results achieved in terms of quality, consistency, and metrics.

Process Management — this dimension examines the performer contribution to managing the processes by examining the definition of roles and responsibilities, organizational competency, crossfunctional contribution, and supporting performance evaluation. Process Design — this dimension examines the core processes and their design in terms of compatibility with applicable best practices, quality of methodologies employed, tools employed, and establishment of reinforcing elements that will enable institutionalization of use.





FIGURE 2: Dimensions of Project Management Maturity

Ultimately, organizations are looking for results. However, the quality and the consistency of the results achieved are limited by one of the other three dimensions. The modeling methodology is used to help organizations target the elements that need to be addressed to facilitate improvement in their PM³ capability. Pathfinder's PM³ practice uses survey instruments to gather and quantify organizational perspectives and combines these data with expert opinion that are based on interview data. Once these data are consolidated, an appraisal of the organizational capability is performed by:

- Quantifying the organization PM³ capability,
- Identifying core component improvement opportunities, and
- Identifying impediments that will need to be addressed to advance the capability of the organization.

Figure 3 presents a sample of the graphical output from the model. The tetrad of maturity dimensions is plotted graphically on a radar diagram with a scale of 1 to 5 in each dimension. This scale corresponds to the maturity levels previously described. Project

management capability is measured by comparing the area of the appraised process to the area of the model. Interpreting the model output cannot be done in a vacuum. Qualitative data are gathered through interviews with subject matter experts. Both the organization and an objective third party who is an experienced project practitioner supply quantitative data.



FIGURE 3: Sample Dimensional Output from Model

The plot shape of the sample is common to many organizations. This organization invested a lot of time and money to develop a sophisticated capital project management process. This is reflected in the process design dimension. However, neither the customer, nor the internal organization supported goals that would advance that design. This is reflected in the process goal dimension. Further, the organization did not support the process with an organizational structure nor the resources to advance the capability of the organization. This is reflected in the process management dimension. The result is reflected in the process output. Much of the project work is still done on an ad hoc basis within this organization even though they have a well-designed process and volumes of supporting guidelines that no one bothers to look at.

Behavioral Characterization of the Maturity Levels

Maturity Levels 2 through 5 can be characterized through the activities performed by the organization to establish or improve the CPMP, by activities performed on each project, and by the resulting process capability across projects. The behavioral characterization of Level 1 is included to establish the baseline of comparison for process improvements at higher maturity levels.

Level 1 - The Elementary Level

At the Elementary Level, the organization typically does not provide a stable environment for developing and executing capital projects. When an organization lacks reliable management practices, the benefits of sound engineering practices are undermined by ineffective planning and reaction-driven organizational endeavor. During a crisis, projects typically abandon any project planning done to date and revert to executing the work. Success depends entirely on having an exceptional manager and a seasoned and effective project team. Occasionally, capable and forceful project managers can withstand the pressures to take shortcuts in the CPMP; but when they leave the project, their stabilizing influence leaves with them.

Even a strong engineering process cannot overcome the instability created by the absence of solid management practices.

The capability of Level 1 organizations is unpredictable because the CPMP is constantly changed or modified as the work progresses (i.e., the process is ad hoc). Schedules, budgets, scope, and business results are generally unpredictable. Performance depends on the capabilities of individuals and varies with their innate skills, knowledge, and motivations. There are few stable work processes in evidence, and performance can be predicted only by individual rather than organizational capability.

Level 2 - The Repeatable Level

At the Repeatable Level, policies for managing projects and procedures to implement those policies are established. Planning and managing new projects are based on experience with similar projects. An objective in achieving Level 2 is to institutionalize effective management processes for capital project development. This allows organizations to repeat successful practices developed on earlier projects, although the specific processes implemented by the projects may differ. An effective process is characterized as practiced, documented, enforced, trained, measured, and able to improve.

Projects in Level 2 organizations have installed basic project management controls. Realistic project commitments are based on the results observed on previous projects and on the requirements of the current project. The project managers track costs and schedules; problems in meeting commitments are identified when they arise.

User requirements and the project deliverables developed to satisfy them are baselined, and their integrity is controlled. Project standards are defined and the organization ensures they are faithfully followed. The projects effectively integrate subcontractors and suppliers to establish a strong customer-supplier relationship. The capability of Level 2 organizations can be summarized as disciplined because planning and tracking of projects is stable and

earlier successes can be repeated. The project's process is under the effective control of a project management system, following realistic plans based on the performance of previous projects.

Level 3 - The Integrated Application Level

At the Integrated Application Level, the standard process for developing and executing projects across the organization is documented, including both engineering and management processes, and these processes are integrated into a coherent whole. This standard process is referred to throughout the organization as the organization's standard CPMP. Processes established at Level 3 are used (and changed, as appropriate) to help the project managers and technical team members perform more effectively. The organization exploits effective Best Practices for both project management and engineering practices. There are process owners that are responsible for the organization's CPMP and its core sub-processes. An organization-wide training program is implemented to ensure that the staff and managers have the knowledge and skills required to fulfill their assigned roles.

Project teams tailor the organization's CPMP to develop their own project specific process, which should account for the unique characteristics of the project. A well-defined process can be characterized as including readiness criteria, inputs, standards and procedures for performing the work, verification mechanisms (such as peer reviews), outputs, and completion criteria. Because the CPMP is well defined, management has good insight into technical progress on all projects.

The capability of Level 3 organizations can be summarized as standard and consistent because both engineering and management activities are stable and repeatable. Within established business lines, cost, schedule, and scope are under control and tracked.



TransCanada Contracting and Project Procurement course in June 2014 in Canada.



Pathfinder Facilitators Scott Diehl and Paul Williams took a break from the New York Praxair training session back in May to visit Niagra Falls.

This process capability is based on a common, organization-wide understanding of the activities, roles, and responsibilities in a defined work process.

Level 4 - The Managed Level

At the Managed Level, the organization sets quantitative goals for business results, project results and the work processes. Productivity and quality are measured for important work process activities across all projects as part of an organizational measurement program. An organization-wide project process database is used to collect and analyze the data available from the projects' defined work processes. The core work processes include well-defined and consistent measurements at Level 4.

Projects achieve control over their processes and results through close relationships with the business stakeholders and use of forecasting techniques that allow teams to address problems proactively. The business, technology, and execution risks involved in strategic projects are known and carefully managed.

The capability of Level 4 organizations can be summarized as predictable because the process is measured and operates within measurable limits. This level of process capability allows an organization to predict trends in projects and avoid or mitigate risks to the business proposition. When project forecasts trend negatively, action is taken to correct the situation. Project results are of predictably high quality and support positive business results.

Level 5 - The Sustained Improvement Level

At the Sustained Improvement Level, the entire organization is focused on continuous process improvement. The organization has the means to identify weaknesses and strengthens the process proactively, with the goal of preventing the occurrence of project failures. Data on the effectiveness of the CPMP are used to perform cost benefit analyses of the process and propose changes to the process. Innovations that exploit the best engineering and management practices are identified and transferred throughout the organization. Project teams in Level 5 organizations analyze failures to determine their root causes. Core work processes are evaluated to prevent known types of issues from recurring, and lessons learned are disseminated to other projects.

The capability of Level 5 organizations can be characterized as continuously improving because Level 5 organizations are continuously striving to improve the range of their capability and thereby improving the process performance of their projects. Improvement occurs both by incremental advancements in the existing process and by innovations using new technologies as well as best engineering and management practices.

Part 4 of this series will address Making A Process Work and Skipping Maturity Levels.

Pathfinder is proud to be a member of the PMI Registered Consultant Program, an online resource that provides organizations with the convenience of accessing a PMImaintained list of consulting firms that are able to improve their project, program and portfolio management practices.

Visit the PMI Registry Today http://www.pmi.org/ConsultantRegistry.aspx



Professional Profile Bob Lucas

Executive Associate

Bob has twenty-five years in Oil/Gas, Power Generation and Heavy Industrial Project Management. His areas of expertise include Project Controls (turnaround, scheduling, cost analysis and outage planning) for plant modifications, outages and EPC turnkey projects as well as startup testing. He is experienced in multi discipline union and open shop



Currently Bob is supporting one of Pathfinder's major Biotechnology client's by providing Project Controls oversight as the Owner's Representative on a large multi-million dollar project that involves both product line and facilities upgrades.

Prior to his current assignment Bob was the Project Controls Lead for a \$500M plant expansion turnaround. Here, Bob was assigned to develop and incorporate an integrated Master schedule from onsite subcontractor schedules via the critical path method. He provided weekly/monthly support for schedule updates and performed critical path analysis. Bob verified remaining durations and reviewed and verified histogram resources for distribution. He also reviewed estimate to complete and provided positive feedback to the General Contractor. Bob also reviewed the weekly earned values with the General Contractor by area modification. He developed a simple integrated startup schedule for site Startup personnel to follow and provided P6 consulting support to other onsite construction schedulers as required.

Bob holds a B.S. in Construction Management from Northeast LA State. He has also continued his education with various courses in Project Development, Time and Cost Management and Contracts. In his spare time, Bob likes to...

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Project Management

AACEI Annual Meeting Energy Track

Pathfinder, LLC has been invited by the AACEI to design an Energy Industry Track for their 2014 Annual Conference which took place 15-18 June 2014 in New Orleans, LA. This track was specifically designed to address Cost Engineering issues that are impacting the Oil/Gas/Alternative Energy industry sector. Pathfinder was recognized for managing the development of the panels. See below for a brief re-cap of what was discussed in each of the panels.

Pictured: 2013 AACEI President, John J. Ciccarelli and Stephen Cabano, Pathfinder, LLC

Attracting Project Control Resources

Bud Mayr of Chevron Cost Engineering Center of Excellence led a panel comprised of Jeanne Farias from Brunel, Tim Burroway from KBR, Dean Miller from Nexen, Christopher Christian from Orion Group who all addressed several key issues around attracting and retaining Cost Engineering resources derived from an AACEI survey conducted earlier in the year. Several key actions were provided including testing or quizzing candidates to assure they meet the quality expectations of the projects, developing a modular mentoring approach where project resources can hone their skills in Cost Engineering and teaming senior cost engineers with recently hired junior cost engineers. It was stated that these overall project resourcing issues remains one of, if not, the biggest issued facing our ability to execute projects in the next 5 years or more. A combination of direct hire as well as contract hire personnel will be needed to support the project workload moving forward.





Contractor Support in Owner Front End Activities

Wayne Crew, Director of the Construction Industry Institute (CII) led a panel focused on Contractor Support in Owner Front End Activities. The panel participants were Stephen Coffee from ChevronPhillips, Rod Knoll from Chevron, Michael Orso from Hargrove, Pat Pipping from Phillips66 and Timothy Pittman from Phillips66. The discussion started off with how Owners are leveraging contractors with front end support including the development of resource loaded schedules, estimating and work package development. The panel then discussed how contractors are held accountable for these types of services. Finally, the panel discussed how Owner's validate work being performed by contractors. This was a lively conversation with a lot of good questions from the audience.

Effective Use of Independent Reviews

Tracy Black, Cost Engineering Risk Management Lead at Chevron, led the panel comprised of Luke Wallace from IPA, Karl Sturm from Chevron, Brian Goedke from LyondellBasell and Robert White from Shell. Initial discussions focused on how reviews are executed and how do you know your receiving value from these reviews. These were two prominent topics requested by the AACEI membership via a survey conducted in the months prior to the meeting. Later the panel members turned their attention to the scalability of reviews and any lessons learned from previous reviews that have proved valuable.





Claims Avoidance Through Effective Cost Engineering

Rich Tyler, Partner, Construction Practice Chair at JonesWalker, led a panel comprised of Micki Kohn from Hargrove, Pedro Acosta from Husky Energy, and Paul Williams from Pathfinder, LLC. While it was a relatively small group, they held a lively discussion geared around effective uses of cost engineering tools, processes and information to avoid claims and drive positive project performance in today's marketplace.

Resource Loaded Schedules

Geoff Roberts of Oracle/Primavera led a panel comprised of owners and contractors including Eddy Mize from Chevron, Lance Stephenson from Enbridge, Bob Walden from Nexxen and Raju Hingorani from Jacobs. Together with over 40 attendees they discussed the importance of resource loaded project schedules. Early discussions focused on the importance of resource planning prior to beginning resource loading of schedules. They then covered many topics regarding why resource loaded schedules are required, how they are developed and the various levels which they are loaded.



Engineering Quality Concerns

As many of us have experienced over the last round of major projects, front end engineering quality has become a major issue. Whether this is due to poor definition from the owners, miscommunication between owners and the contractors or less experienced resources on the contractor side, engineering deliverables are coming out late and not aligned with the owners business needs. And in some cases not even suitable for bidding the execution work.

Pathfinder has seen countless examples of misaligned quality expectations around aspects such as future expansion considerations, product flexibility, capacity fluctuations, reliability, etc. Gaining agreement between the engineering representatives, the operations representatives and most importantly the Business leaders is an imperative owner's step. This assures that a clear and concise understanding of the project function objectives is communicated to the contractors.

Owners also need to drive early agreement and award of the front end execution contractor in order to allow enough time to effectively complete the conceptual and basic engineering efforts. Holding a contractor responsible for meeting a predetermined deadline but minimizing the allowable time due to early contract issues, Scope clarification challenges, funding delays, etc., drives inefficiencies in the contractor's shop. Many owners have opted for a facilitated scope clarification meeting, more detailed than the traditional kick-off meeting, upon contract award to assure 100% alignment on scope issues between the owner's team and the contractor.

The contractors are not at fault here either; it is no secret that our engineering resources are stretched across the industry Engineering contractors in the process industry are extremely active and their internal skills sets are stretched to, or in some cases beyond, their effective limits. This, in addition to the limited supply of engineering talent entering the marketplace, is a major industry issue. Contractors need to be honest on their workload expectations and not take on work beyond their resource availability. Aggressive HR efforts to attract more engineering and project management support are well intended but we seem to be stealing from each other rather that growing the pipeline.

A number of steps can be taken to address this issue and make sure everyone is moving in the same direction. Recently, Independent Project Analysis (IPA) announced that the Class of Facility Quality, Value Improving Practice (VIP), which was historically one of the 12 optional VIPs, is now considered a standard practice and is required for all projects. If executed correctly, this assures alignment between



owners business representatives, engineering and operation which will minimize or eliminate late changes in scope due to misaligned project quality expectations

Pathfinder supports IPA's transition because this practice is a structured decision-making process, which can be used to effectively establish and manage scope development for new operating facilities in alignment with the business and project objectives and has historically demonstrated project costs savings of up to 20% within the industry, and can reduce project schedules by virtue of elimination of engineering recycle during the project. This better established design criteria needs to be effectively communicated to the design contractor and the contractor has to execute efficiently and to industry accepted standards. Spot owner quality checks should be planned to assure this expectation is being fulfilled. If the owner does not have this internal capability, an external independent project review effort should be considered.

If you have any opinions on this topic please email info@pathfinderinc.com.



Racing News!

Pathfinder was again a proud sponsor of the Pineland Striders Independence Day Race held on June 28 in Medford, NJ. Our own Maria Lizardo represented PFI well by tackling the 10K on a very warm morning and won an award in her age group.

Race proceeds benefitted two charities: the Precious Gems Memorial which is an organization dedicated to creating awareness about drunk driving & law enforcement sensitivity training and the Sjogren's Disease Foundation.



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Project Management Training

Construction Industry Institute®

Project Manager Level of CII's Professional Development Continuum

Pathfinder, LLC and the Construction Industry Institute are proud to offer this 5-day, three-module professional development continuing education session for the project management community. This program is a resource to help organizations plan the development of new construction project managers (those who have three to five years of experience). The Professional Development Continuum Plan (Project Manager Level) illustrates how CII publications, education modules, online courses, and instructor-led courses taught by CII Registered Education Providers address competency areas across the project life cycle. These project management training sessions will focus on the following areas: project management orientation, project controls overview, contract administration and project management communication.

Any of the following courses can be CUSTOMIZED and presented on location to meet the needs of your project team.

Project Management Orientation (1 Day)

This module will provide an overview of the roles and responsibilities of the owner and contractor's project manager. Attendees will experience the perspective of the worldwide project planning and execution environment and how project management must react to changes in this ever-evolving industry. Attendees will also have the opportunity to better understand the function of the project manager and how creating an environment where others can work efficiently is the primary role.

Project Controls Overview (2 Days)

This module will provide attendees with an overview of the overall project controls process and how this integrates with the project delivery process. Project control planning aspects such as scope definition, cost management and schedule management will be broken down into topics to include cost estimating, planning, cost control, and schedule management. Supporting these topics will be discussions on scope control and change management. Aspects such as productivity, performance measurement and earned value will also be addressed.

Contract Administration (2 Days)

This module delivers the overall contracting process from contract strategy selection through the development of contract documents and contract administration. Lump sum, reimbursable, unit prices and incentive contract compensation approaches will be addressed, as well as contractor pre-screening, bid review and negotiations. Attendees can expect to discuss worldwide engineering and construction activity including the evolving contractor community and resource availability.

DATES AND LOCATIONS

Each 5-day training program will be offered in the following 2014 presentation schedule:

September 15-19, 2014 - Calgary, Canada

November 3-7, 2014 - Houston, TX

The Bundled Option

Combine all 3 of the above mentioned courses for a comprehensive 5-day, three-module professional development program.

Project Management Communication (2 days)

In this training, participants are exposed to the skills they need to analyze and disseminate all relevant project information in an effective and timely manner, and to prepare for and conduct project meetings and correspondence. They learn how to develop a communication management plan and acquire techniques for improving the communication of information to all project stakeholders. Topics include: Targeting an Audience, Addressing perceived needs, Identifying actions that need to be taken and Establishing timetables for action.

DATES AND LOCATIONS

This training program will be offered in the following 2014 presentation schedule:

September 22-23, 2014 - Calgary, Canada November 10-11, 2014 - Houston, TX

To register go to... www.pathfinderinc.com/services/development/public/cii/cii-registration



Pathfinder News

Alberta Chamber of Resources - Pathfinder is proud to be a member of the Alberta Chamber of Resources. The Alberta Chamber of Resources (ACR) continues to expand the collaborative efforts within Alberta's resource industries. ACR's hallmark is to offer solutions and seek balance to ensure the orderly development of Canadian resources. This is the theme for the Chamber's future—to stand up and represent the voice of our members in a powerful and credible way.

The ACR has 187 members that create billions of dollars worth economic activity in Alberta every year. More importantly, these companies are spread all across the resource spectrum, ensuring that the ACR comprehensively advocates for the orderly and responsible development of our natural resources.

Industry Trade Advisory Committee on Small and Minority Business (ITAC 11) - Elliot Levine attended a meeting on Monday, May 19, 2014 at the Ronald Reagan International Trade Center. The open portion of this ITAC 11 meeting consisted of an update on the Trade Promotion Authority by staff of the Senate Finance Committee and House Committee on Ways and Means.

AACEI Annual Meeting Recap - The panel discussions that Pathfinder organized were very well attended and discussions went well and new ideas were shared. The presentation on ??? also went well. Stephen Cabano presented "Can PMCs Fill Owner's Cost Eng. Needs for Major Capital Projects?" to about

CII Conference Recap - Stephen Cabano and Jim Blevins attended the 2014 Annual CII Conference in Indiana in July. The focus was Driving Performance at Every Turn. The keynote address was given by David Foot (Footwork Consulting, Inc.), an outspoken economist who shows how changing demographics is reshaping the world around us, both locally and globally. Mr. Foot outlined the impacts that this changing demographics could have on the industry. There were over 740 industry professionals in attendance. Several new tools were introduced throughout the event.

Anniversaries!!! - Pathfinder's **Mike Mcllvaine** celebrated 15 years with Pathfinder in July. Since joining Pathfinder, Mr. Mcllvaine has assisted several clients in developing contracting strategies, contractor screening, contract document development, proposal review and analysis, as well as assisting with the negotiation and development of the final contract documents. Recent major oil industry clients have included The Bahrain Petroleum Company (Bapco), Canadian Natural Resources Ltd. (CNRL), Tosco (now ConocoPhillips), Murphy Oil USA and Yukos Refinery in Lithuania.

Pathfinder's **Michelle Murray** celebrated 20 years in May. Michelle's responsibilities have included preparation and finalization of reports/slideshows for company clients, industry societies, annual conferences and marketing meetings. Additionally, Michelle assists in coordinating and streamlining staff workload schedules and administrative "work product" quality control.

Pathfinder's President and COO, **Stephen Cabano**, recently celebrated 25 years. In addition to leading and growing the company, Stephen has been a key project team member on many domestic and international large-scale project consulting assignments for Pathfinder. Prior to becoming President, Stephen headed up Pathfinder's training division, where he designed, developed and presented over 500 customized training programs, with total enrollment exceeding 15,000 participants, for both owner and contractor organizations, domestically and internationally. Stephen also leads the Pathfinder effort for consolidating industry proven "Best Practices", and "Value Improving Practices" tools and techniques for utilization in various training and consulting assignments. This information is collected from his participation in organizations such as the Construction Industry Institute (CII), the Project Management Institute (PMI), Association for the Advancement of Cost Engineering International (AACEI), American Institute of Chemical Engineers (SAVE), as well as other renowned organizations.

Pathfinder Accepts ALS Ice Bucket Challenge - These Pathfinder employees accepted the ALS Ice Bucket Challenge from our very own Michelle Murray in order to raise awareness for this terrible

disease. We would like to challenge Scott Diehl from our Canadian office, Jim Blevins from our Houston Office and since our President and COO was traveling at the time we challenge Steve Cabano. Here are some facts: ALS occurs throughout the world with no racial, ethnic or socioeconomic boundaries. ALS can strike anyone. ALS is not contagious.

We have been collecting donations in the office and will submit it to the ALS Association.



PATHEINDER Activity

ECC Annual Conference September 3-6, 2014 Orlando, FL Attending

World National Oil Company Congress September 25-26, 2014 Cancun, Mexico Attending

ICEC World Congress Re-Engineering

Total Cost Management October 20-22, 2014 Milan, Italy Presenting: Can PM Contractors Fill Owners' Cost Engineering Needs for Major Capital Projects

AACEI Total Cost Management Conference

November 10-13, 2014 Bangkok, Thailand Seminar: Project Controls from and Owner's Perspective Presenting: Can PM Contractors fill Owners' Cost Engineering Needs for Major Capital Projects

AIChE Annual Meeting

November 16-21, 2014 Atlanta, GA Presenting: Utilization of the PM Approach

PMI-SAC Professional Development Conference

November 24-25, 2014 Calgary, Alberta, Canada Presenting: Results of most recent PMI-SAC EPC Roundtable

LOCAL CHAPTER MONTHLY MEETINGS

AACE Houston AACE New Orleans Houston Business Roundtable ISPE NJ - Dinner Meetings PMI Calgary AACEI Calgary/Chinook CHOA