

Independent Project Analysis, Inc. is the preeminent organization for quantitative analysis of capital project effectiveness worldwide. At IPA, we provide practices you can use to ensure your success.

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Making Sense of E&P Industry Owner's Costs

Study Identifies Owner's Cost Drivers, Cost Reduction Strategies

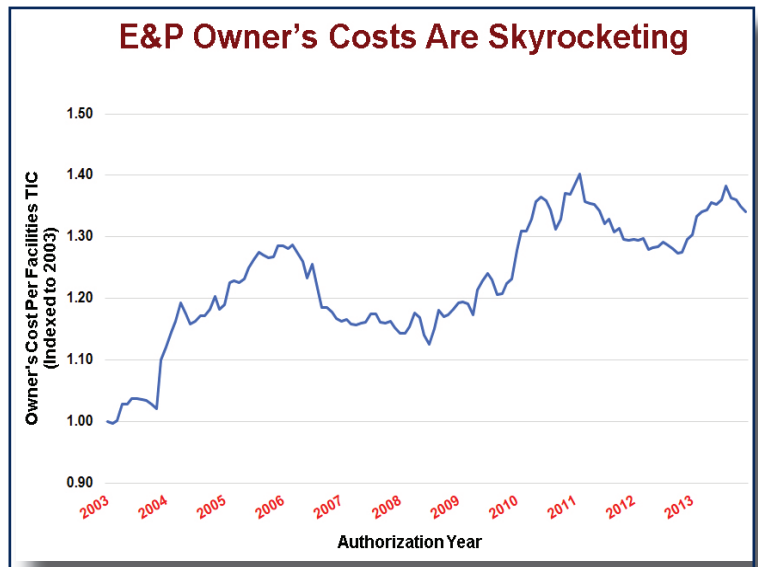
Exploration and production (E&P) owner companies have seen the amount of owner's costs spent on the development and execution of capital projects skyrocket for over a decade. When oil prices were around \$100 per barrel, owner companies had little reason to concern themselves with increasing owner's costs.

But with today's lower oil prices, many companies are seeing their capital expenditure (CAPEX) budgets shrink. Owner's costs, which have increased by 40 percent in the last decade, are now a concern.

The fundamental question owner companies are raising is: "What's driving increasing owner's costs and what can be/should be done about it?"

There is a general, high-level understanding throughout the industry that higher owner's costs must be associated with larger project teams. However, no one has asked whether the larger owner teams are justified in each and every case and whether the makeup of the large teams are appropriate. In other words, is the owner's cost being spent effectively?

The increased size of many owner company project teams, however, *Continued on page 4*



Getting Ready to Operate for Minerals Project Starts in FEL

4 Questions to Consider Before Operations Begin

The project is built, and now the cash should start rolling in. But the ramp-up does not go smoothly: operators and maintainers are unfamiliar with equipment procedures, some supply contracts have not been finalized, the equipment and engineering documentation was delivered but not in a format that can be transferred to the enterprise asset management system, acceptance testing was rushed, and the installation contractors are now gone.

The result is that early operational performance does not meet objectives, and the first year after start up is filled with unplanned maintenance actions and operation upsets. Operating costs are higher than expected.

IPA data show that during the second 6 months of production, the average minerals project falls 21 percent *Continued on page 5*



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IPA Launches Redesigned Website

IPA has pulled the plug on its old website. What *IPAGlobal.com* visitors will now find is a modern website interface design featuring the latest information on how companies can improve the effectiveness and value of their capital projects.

Site users—even ones who are already familiar with IPA—can easily find information explaining why IPA is the industry’s leading source for capital project benchmarking, evaluations, research, and education.

Among the improvements, the new site:

- Features capital project news, business and project team advice, project and market trends research, and upcoming IPA events on the homepage
- Makes more and better use of imagery, including charts and graphs, photos, and other visual elements, to better convey key messages
- Showcases IPA research with “Latest News” and “Current Studies” news feeds appearing on most pages, providing quick access to more information about upcoming and ongoing research
- Organizes content by industries, services, and global regions, so users can easily find information on benchmarking and consulting services, assessment tools, and trending industry issues
- Enables smooth navigation by minimizing page downloads
- Supports mobile device viewing
- Makes it easy to get in touch with IPA regional directors and industry area managers

The launch of the IPAGlobal.com site follows the release of The IPA Institute website—*IPAInstitute.com*. The IPA Institute’s site includes descriptions of public and private courses supported by IPA’s education and training arm, lists course schedules, and even offers free webinars on select capital project topics.

Follow IPA on LinkedIn at www.linkedin.com/company/independent-project-analysis

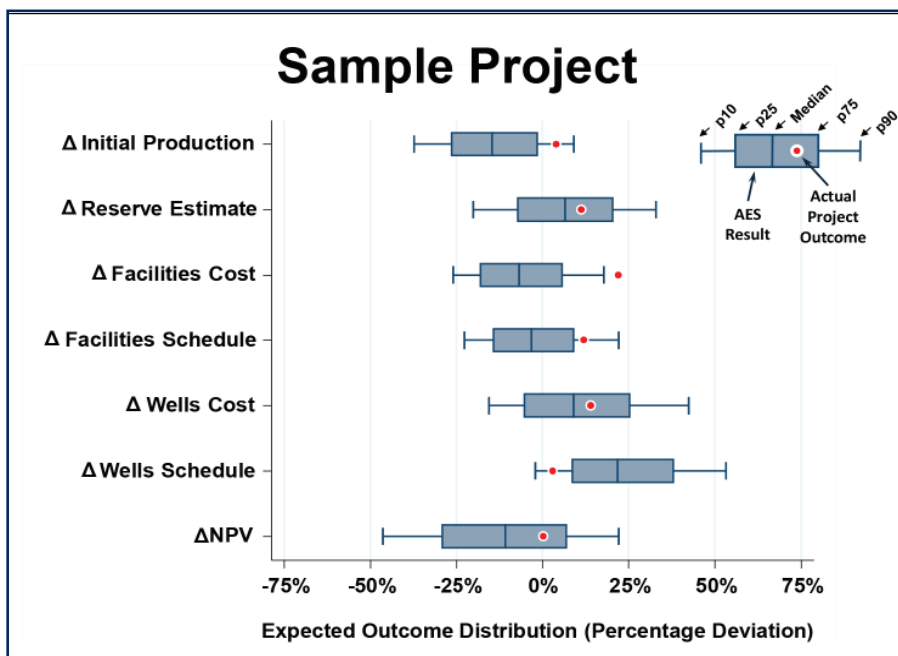
New Online Asset Economics Simulator (AES) Available in May

E&P Companies Will Soon Be Able to License IPA's New AES Online Software for In-House Use

Software designed to evaluate and diagnose exploration and production (E&P) asset economics is about to become much more accessible, just in time for E&P companies looking to scrutinize potential projects and rein in ongoing projects likely to underperform in a low oil price market.

IPA will release the new web-based version of its Asset Economics Simulator (AES) software in May. The web-based subscription service will allow E&P companies to enter project characteristics, practices, and targets into the online simulator on their own computers. The software then simulates the likely results of different scenarios given the historical performance of the hundreds of E&P projects contained in IPA's databases. This is the first time IPA is putting the power of its databases and years of research at its E&P client's fingertips.

AES is available to companies interested in: 1) more realistically assessing project economics in the early development stages, 2) predicting the likely results of ongoing projects, and 3) assessing the true economic effect of project decisions in both ongoing and completed projects. By using the AES, companies can gain a holistic and realistic view of E&P asset economics. *Continued on page 4*



Web-Based AES: Example of a project's simulated outcome distributions.

Edward Merrow

Founder and President

Paul Barshop

Chief Operating Officer

Elizabeth Sanborn

Regional Director,
North America

Carlos Flesch

Regional Director,
Latin America

Mary Ellen Yarossi

Regional Director,
Europe

Allison Aschman

Regional Director,
Asia Pacific

Geoff Emeigh

Managing Editor

Jessica Morales, CAP

Development Coordinator

Pam Emons

Graphic Designer

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www.IPAGlobal.com



www.IPAInstitute.com

IPA improves the competitiveness of our customers through enabling more effective use of capital in their businesses. It is our mission and unique competence to conduct research into the functioning of capital projects and project systems and to apply the results of that research to help our customers create and use capital assets more efficiently.

The IPA Institute's mission is aligned with the overall IPA mission to improve the capital productivity of its clients. The programs offered provide a forum for in-depth understanding of key elements of the capital project process and how to apply these learnings to effect positive changes and improvements, resulting in the more effective use of capital.

Continued from page 1

can in large part be linked to a more complex capital projects environment and demographic challenges. New technologies, harder to reach reserves, and new regulatory and permitting arrangements have forced project organizations to bring project specialists on board to advance projects through development. Meanwhile, project teams are hiring additional staff to replace more experienced engineers and other in-demand project professionals—cost estimators, for instance—who are leaving the workforce.

IPA data have shown that asset development engineering productivity has fallen off, in particular. So even if larger project teams have caused owner's costs to increase, companies cannot easily overlook the drivers of project team size.

Put another way, there are no straightforward answers when it

comes down to figuring out how to rein in asset development owner's costs. Staff reductions, for instance, will not change the fact that today's complex projects environment requires sufficient staffing in key functions to deliver capital projects effectively. And looking forward, projects may become even more complex.

Instead, the challenge confronting owner companies is the development of smart staffing strategies that will drive owner's cost down without risking poor project performance and outcomes. IPA research has demonstrated that owner-led teams actually provide the foundation for project success (See *Doing More With Less (Without Failing Miserably)*, IPA Newsletter, Vol. 6, Issue 3, September 2014).

Crucial to owner-led project team success is staffing with owners in key functions, including engineer-

ing, construction management, and project services.

IPA recently completed a multi-client study that takes a closer look at E&P industry project owner's costs. The study examines several elements responsible for driving owner's costs higher, reviews how staffing decisions have helped and hurt project outcomes at key stages of development, and proposes ways that companies can better manage owner's costs.

IPA's Owner Cost Study is still available to companies interested in gaining unmatched insight into what has been driving the rise in owner's costs and learning about strategies to leverage owner's cost savings.

The study also provides an assessment of each participating company's owner's costs practices and shortfalls.



For more information about the Owner's Cost Study, contact Jonathan Walker, IPA Associate Research Analyst, at jewalker@ipaglobal.com.

Continued from page 3

The AES is useful in:

- Reducing bias in company estimates to realistically assess the likelihood of project success
- Assessing the effects project practices are likely to have (or had) on net present value (NPV)
- Identifying projects on track to succeed or fail
- Evaluating trade-offs of different project development strategies
- Identifying project system factors contributing to NPV gain or erosion

IPA has already determined that many E&P companies' portfolios have too many projects with severe definition gaps. Such definition gaps include a lack of understanding about the size and complexity of the reservoir, or insufficient basic data to support the wells and facilities engineering efforts.

The AES can be used to assess which opportunities are worth keeping and which are better to postpone or let go.

Many projects also set cost and schedule targets that are too aggressive. And yet, these project are all too often permitted to proceed through the project development process all the way to Select (Front-End Loading [FEL] 2) or even Define (FEL 3).

Such projects are often at greater risk of experiencing substantial cost growth and value erosion during execution and on into production.

Using AES allows companies to optimize their portfolios early in the capital project work process by filling in for the absence of the key reliable data necessary to measure the true value of opportunities and project decisions.

The key output generated by the AES software is the Δ NPV, or the expected change in NPV between project sanction and post-startup.

The Δ NPV metric is easily recognized and understood by business and project decisions-makers alike as a measure of asset development

By René Klerian-Ramírez



For more information on AES, please contact René Klerian-Ramírez, Project Manager, at rklerian@ipaglobal.com, or +1 703 726-5469.

Continued from page 1

short of its plans. Moreover, the operating costs for most projects are higher than planned. The result is a significant value leakage and erosion of the project's planned Net Present Value (NPV).

The transition to operations is fraught with the potential for NPV losses. However, by developing "ready to operate" plans during FEL, project teams can mitigate NVP "leakage" that could occur.

The development of ready to operate plans is a clear owner responsibility. Too often though, such planning is delayed, not properly staffed, and not well planned. The result, then, is a series of efforts to catch up that are both inefficient and costly. Supply contracts that have not been finalized may have to be renegotiated, for instance. Another setback could be operations delays associated with familiarizing operators and maintainers with the equipment on site.

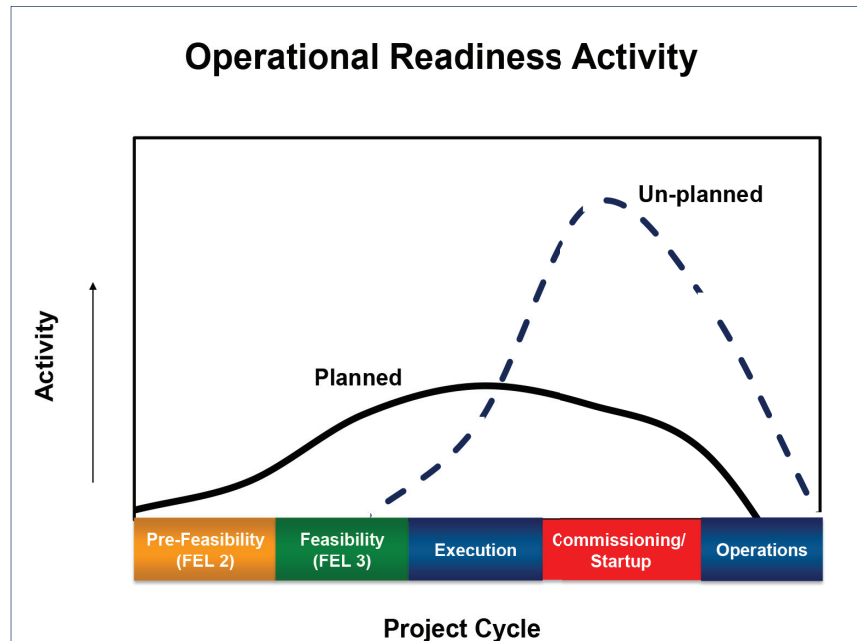
Therefore, the operational readiness function needs to be on the team in early FEL 2 to support scope selection and equipment choices. Specifically, the operational readiness team needs to ask the following questions when planning for the turnover to operations:

Are the people ready? The **People** element is focused on whether operators and maintainers will be available in the numbers needed and trained to move into the operations role when systems are handed over. In Industry, this is generally a well understood need. What is often overlooked are the elements of organization change. New facilities can mean a changed or new organization. What is the new organizational vision? How might the culture change? How will the changes in the organization be rolled out and explained? Who will take the leadership to describe the vision and communicate it to staff? Planning for these elements is required to have a smooth transition into operations.

Are the systems ready? **Systems** readiness is focused on whether the management information systems needed to run operations are ready. The new facility must integrate with the existing asset management systems, metallurgical accounting systems, health and safety systems, and ore reporting systems. All of these systems have very structured data requirements and hierarchies, while engineering data often are more document-based, with different hierarchical structures. Operational readiness planning needs to make sure the inputs needed by this array of manage-

ment systems are developed in the appropriate formats and delivered on time.

Are the supplies ready? **Supply** readiness is associated with how the new facility connects with the supply chain. Items for consideration here include sourcing strategies for consumable supplies; procurement issues, such as ensuring packages include needed



Mining Starts: The operational readiness function is needed early in FEL 2.

supporting technical documentation for operations; and getting supply contracts in place for new vendors.

Is the equipment ready? **Equipment** must also be readied, and this encompasses startup and commissioning with activities done in the right sequences and the proper operator and maintainer involvement. This is a well-understood need, but one that often gets delayed. Planning should begin in Feasibility to develop draft pre-commissioning, commissioning, start-up, and handover plans. These activities need to be resourced, scheduled, and budgeted in detail by the end of Feasibility.

Too few recognize that decisions and project development planning that occur in FEL 2 affect pre-operational readiness activities following commissioning and start-up. The operational readiness function's responsibilities expand from early FEL 2 onward. By considering the People, Systems, Supply, and Equipment elements in operational readiness planning, however, the chances of a smooth handover to operations are improved. The likelihood of value leakage that too often occurs in the transition to operations is also reduced. *By Fred Biery*

i For more information, contact Fred Biery, IPA Manager, Mining, Minerals, & Metals, at fbieri@ipaglobal.com.



25th Meeting of the Industry Benchmarking Consortium

IPA is set to host the 25th gathering of the Industry Benchmarking Consortium (IBC), an independent forum where companies have chosen to continue a tradition of pursuing excellence in capital project effectiveness.

IPA facilitated the first two IBC meetings for the four companies that comprised the consortium—Shell, Chevron, DuPont, and Eastman—in 1992. Since then, IBC member companies have convened annually to find out how their most recent IPA capital project benchmarks measure up against the project performance of their industry peers.

Another reason companies attend IBC conferences is to be among the first to learn about IPA's latest capital projects research. Companies have come to rely on IPA research findings, many derived from a proprietary database of more than 17,000 projects, to assist them in reducing the cost and improving the effectiveness of their capital portfolio(s).

At this year's conference, March 23-26, 2015, in Leesburg, Virginia, IPA President and CEO Ed Merrow will unveil a new approach for how the industry can capture more value from the complex flow of project information.

"Effective Contracting for Effective Projects" is the title of a new study Merrow will present during the second full day of the conference. The study looks at what project contracting approaches are most effective in the current industry environment given owner capabilities and upstream IBC (UIBC) was spun off from the IBC in 1995 to

Providing project teams with basic tools to help them more accurately forecast the duration of Front-End production (E&P) industry.

Loading (FEL) early in the project lifecycle is the topic of another new research study at the IBC. IPA Senior Project Analyst Chris Mullaly, the study's lead investigator, will explain the effect of inherent project characteristics as well as project practices on project development durations.

Also at the conference, Subscription Services Director Dean Findley will lead a new research study discussion on the performance of engineering value centers (EVCs) and what owner practices matter in getting better project performance from EVCs. At a separate session, Findley

will discuss how IBC member companies can keep up to date on industry research of use to project professionals on the business and project sides of project organizations.

Site-based systems is the topic du jour at IBC on the final day of the conference. IPA Plant-Based Systems Manager Phyllis Kulkar-

ni will preside over the site-based projects benchmarking comparisons session. IPA Associate Analyst Karine Cung will present a research study that explores the relationship between perceptions and the morale of project personnel at a given site and the site's practices and performance. Separate presentations will review ways to improve site-based project outcomes.

Since 1992, more than 110 different companies have participated in the annual IBC gatherings held throughout the United States, with the conference being held in Northern Virginia for the last several years. The Up-



For more information about the IBC and the annual conference, contact Andras Marton at amarton@ipaglobal.com, or Jennifer Nicolaisen at jnicolaisen@ipaglobal.com

10th EMEA IBC Gathers Owner Companies at The Hague

IPA's Europe, Middle East, and Africa (EMEA) regional office is set to host its 10th EMEA Industry Benchmarking Consortium (IBC) conference April 21-22, in The Hague, the Netherlands.

Like its sister conference that takes place a few weeks earlier in North America, the EMEA IBC conference focuses on downstream capital project performance, only the event in The Hague reviews projects located across the region, including Russia, as well as the Middle East and Africa.

Representatives from the IBC companies with operations in EMEA are expected to attend the EMEA IBC 2015 to review downstream project benchmarking performance, work process development and execution Best Practices, regional project market trends, and cost estimating issues.

"The centerpiece of this conference is as always performance and practice metrics of the participating project systems," IPA EMEA Regional Director Mary Eilen Yarossi wrote IBC members in announcing the conference. "These metrics provide a view of the current state of capital effectiveness" from across the region.

IPA President Edward Merrow will deliver the keynote address at the confer-

ence, during which he will speak about recent IPA research examining the effectiveness of contracting approaches in relation to project owner capabilities and project location, type, and size characteristics.

This year's EMEA IBC will also feature research studies delivered at the IBC in North America and the Cost Engineering Committee (CEC), an IBC subcommittee that concentrates on project cost estimating trends.

Breakout meetings and roundtable discussions are among the conference's highlights also. Roundtable discussions during the conference will take a closer look at cost metric tools and benchmarking methodology.

A separate roundtable discussion will center on how labor and productivity are affecting project outcomes throughout the region.



"Everyone is looking for ways to improve the cost performance of their projects," Yarossi said. "The project research and ideas for improved capital effectiveness shared by IPA analysts and attending company project organization professionals at this conference is intended to support companies in their pursuit of capital project excellence."

i For more information about the EMEA IBC, contact Nathalie van der Hoek at nvanderhoek@ipaglobal.com.

Delivering In-House Training for Project Organizations

IPA Institute Courses Tailored to Client Goals

For years, the IPA Institute has delivered public and private courses that have provided attendees with real-world insights and data-driven observations about capital project development and management issues. Now companies can integrate these same core course teachings in their own project organization training programs through the Institute's In-House Learning Program.

The program allows project organization training program coordinators to work side-by-side with experienced IPA analysts and instructors. This way the company's project organization courses and learning materials

are sure to focus on closing gaps in the organization's existing project development and execution work processes, management practices, and governance structures.

"Since the courses are custom-designed and integrated into the client's in-house training program, participants can engage in more candid discussions about internal project practices," IPA Institute Director Andrew Griffith said. This learning approach also allows a client's past and ongoing capital project performance data, including company benchmarking results, to be incorporated into classroom and workshop training.

Participants can come away from the in-house training with actual cost and schedule risk mitigation practices, as well as Best Practices that can be applied immediately to improve project performance and outcomes.

In-house courses can be led by IPA instructors, co-led by client and IPA instructors, or led by client instructors themselves. Further, companies have reach-back access to Institute course updates and client-specific project data in order to keep their in-house course instruction fresh and current.

i For more details, contact IPA Institute Director Andrew Griffith at agriffith@ipaglobal.com.

Research Corner: Updates for IPA's Current Research Initiatives



Achieving Better Project Outcomes in West Africa

The group of coastal countries stretching from Guinea to Angola is home to vast mineral wealth and 35 percent (>350 million) of Africa's total population. It is also very possibly the single most difficult region in the world in which to develop and execute successful industrial capital projects. The motivation for this study is to find ways to reduce project risks in this uncertain region. The goal is to find the commonalities in the successful projects from this region and catalog the practices to minimize risks. Study scoping is complete and formal proposals have been issued. The study is open to owners and contractors.

i *Nekkhil Mishra, Senior Project Analyst: nmishra@ipaglobal.com*

i *Tunde Oguntimein, Associate Research Analyst: toguntimein@ipaglobal.com*

Understanding Drivers of Rising Owner's Costs in the Oil & Gas Industry

IPA has completed a study to investigate and provide solutions in response to the rapid increases in E&P owner's costs. Participants in this joint industry project received a unique set of benchmarks and insights into why owner's costs are rising so much; how their owner's costs compare with competitors; and how owner's costs should change with project size, complexity, or geography. This study is now complete, but its insights as well as the system diagnostic are available to new participants. (See page 1 story in this newsletter for additional details.)

i *Jonathan Walker, Study Principal Investigator: jewalker@ipaglobal.com*

Project Authorization Processes and Durations

"It seems like it's taking longer and longer to get my projects authorized, and the hurdles keep getting higher..." is a theme IPA has heard from several clients this year. Although a hasty authorization phase can lead to an ill-prepared project facing trouble in the field, a process that is too onerous means the project may risk team member turnover or market changes while waiting on approval. So what is the "right" level of approval for a given project's authorization and how long "should" it take, considering the project's size, the company's portfolio size, the project type, and other key factors? IPA will answer these questions in a multi-client study that is open to all companies. The study will kick-off during the first quarter in 2015. Several companies have already committed to the study.

i *Natalia Zwart, Business Manager, Chemicals, Life Sciences, and Nutrition: nzwart@ipaglobal.com*

i *Phyllis Kulkarni, Business Manager, Plant-Based Systems: pkulkarni@ipaglobal.com*

Oil Sands Tailings Management

As regulatory requirements for tailings management continue to tighten, the major players in the Canadian oil sands industry face significant challenges in reducing the amount of tailings they generate during bitumen extraction and in reclaiming the large volumes of tailings that already exist on their sites. Tailings management projects are increasingly capital intensive with no direct return on investment. At the request of several clients, IPA conducted a study to determine a benchmarking methodology for these unique projects and to investigate the drivers of cost and schedule in tailings management capital investments.

i *Jennifer Nicolaisen, Study Principal Investigator: jnicolaisen@ipaglobal.com*

Continued on page 9

Continued from page 8



Global Equipment Procurement for Capital Projects

IPA is conducting a study that aims to advance Industry's understanding of the current trends and practices in equipment procurement for capital projects. A key focus is to evaluate the total cost of procurement in various global regions, taking into account equipment prices, the costs associated with transportation and setting up and maintaining regional procurement organizations, and other costs tied to addressing potential quality problems. IPA will also assess how companies' organizational structures, procurement approaches, contracting strategies, and other purchasing practices and strategies affect procurement effectiveness.

 **Josh McClellan, Study Principal Investigator:** jmcclellan@ipaglobal.com

 **Natalia Zwart, Business Manager, Chemicals, Life Sciences and Nutrition:** nzwart@ipaglobal.com

Managing Non-Operated Ventures

Companies are good stewards of capital when they consistently identify and develop the most promising investments and execute them well. Many organizations, however, struggle to drive the performance of their non-operated ventures (NOVs). IPA has launched a study with a core group of clients to explore how governance, oversight, and organizational practices contribute to NOV success. IPA will accomplish these goals by analyzing a sample of NOV projects using elements of IPA's Upstream Project Evaluation (PES®) system, interviewing non-operating partner companies, and surveying operating companies. Six operators have joined the study which is now underway. The study remains open to new participants and is expected to be complete in December 2015.

 **Rolando Gächter, Business Manager, Exploration and Production:** rgachter@ipaglobal.com

 **Katya Petrochenkov, Study Principle Investigator:** kpetrochenkov@ipaglobal.com

Decommissioning, Phase 2

Phase 1 of the Decommissioning Study pooled the learnings of decommissioning projects in the Gulf of Mexico (GOM) from several operators and benchmarked company performance against Industry as a whole to guide future projects on cost and schedule planning. The analysis phase of the study was completed on the removal of intact platforms and well abandonments. The second phase of the study proposes to include additional decommissioning activities and an expansion to other regions of the world to provide clients with the most comprehensive study on the scope of decommissioning in Industry.

 **Tom Mead, Deputy Director of Research:** tmead@ipaglobal.com

Offshore Revamp Performance

Brownfield projects routinely suffer from large cost increases during execution. This problem stems from the fact that we lack reliable assessments of the realism of revamp scope and cost estimates. This effort will establish quantity-based tools (i.e., handled weights and man-hours) to assess revamp project performance. The goals of this study are to provide a detailed analysis of the participants' system performance on revamp projects, a summary of key drivers, and revamp trends over time and across regions. The study framing is currently underway and will conclude once the data availability is established.

 **Tom Mead, Deputy Director of Research:** tmead@ipaglobal.com

Upcoming IPA Events & Presentations for 2015



- March 19** ***IPA Asia-Pacific Regional Director to Present at ARTC Annual Meeting***
Allison Aschman, IPA Asia-Pacific Regional Director, will present a paper on the typical root causes of megaproject success and failure at the 18th annual Asian Refining Technology Conference (ARTC), in Bangkok, Thailand. The theme for the conference is upgrading Asia's refineries for efficiency, profitability, and compliance.
- April 21** ***IPA Director, Oil & Gas Practice, to Speak at SPE Gulf Coast Section Event***
Neeraj Nandurdikar, IPA Director, Oil and Gas Practice, will lead a Society of Petroleum Engineers' Gulf Coast Section talk on the steps businesses should be taking right now that will help their companies emerge stronger from the recent slump in oil prices. His presentation is titled: "PFC: An Agenda for the Lull: Coping Successfully in These Volatile Times". Visit <http://www.spegcs.org/events/2837/> for more information.
- April 21 - 22** ***2015 EMEA IBC Meeting in The Hague, The Netherlands***
 IPA's Europe, Middle East, and Africa (EMEA) Regional Office will hold its **10th EMEA Industry benchmarking Consortium (IBC)** conference. IBC companies with operations in the region will review downstream project benchmarking performance, work process development and execution Best Practices, and other issues. Contact **Nathalie van der Hoek** at nvanderhoek@ipaglobal.com, for addition information about the event.
- May 12** ***IPA President to Present at COAA Annual Best Practices Conference***
IPA President and CEO, Ed Merrow, will be the keynote speaker at the Construction Owners Association of Alberta (COAA) Best Practices Conference, in Edmonton, Alberta, Canada. Merrow's presentation will focus on what companies in Alberta can do in today's market to improve capital effectiveness. Visit <http://www.coaa.ab.ca/> for more information.
- June 24 - 25** ***UCEC 2015 Annual Meeting in Houston, Texas***
 The **Upstream Cost Engineering Committee (UCEC)**, formally organized in 1999, is an approved subcommittee of the Upstream Industry Benchmarking Consortium (UIBC). The purpose of the UCEC is to improve upstream project and business results by providing metrics for better cost engineering. For more information, contact **Carlton Karlik** at ckarlik@ipaglobal.com.
- September 28 - 30** ***CEC 2015 Annual Meeting in Tysons Corner, Virginia***
 The **Cost Engineering Committee (CEC)**, an approved subcommittee of the Industry Benchmarking Consortium (IBC), focuses on all aspects of cost (or investment) engineering. For more information, contact **Luke Wallace** at llwallace@ipaglobal.com.
- November 16 - 18** ***UIBC 2015 Annual Meeting in Leesburg, Virginia***
 The annual meeting of the **Upstream Industry Benchmarking Consortium (UIBC)** provides an independent forum for each participating company to view its performance against the performance of other companies. For more information, contact **Neeraj Nandurdikar** at nnandurdikar@ipaglobal.com.



2015 Public Course Schedule

The IPA Institute, a division of Independent Project Analysis (IPA), develops and delivers educational seminars to further IPA's mission to improve capital effectiveness. IPA Institute courses are derived from IPA's extensive research and quantitative analysis of capital projects, linking statistically proven Best Practices to business value. In addition to public courses, the IPA Institute can deliver courses privately at a company's preferred location. Choose from existing off-the-shelf courses or highly customized courses designed to help improve a company's internal training program. To view full course descriptions, pricing, up-to-date registration details, and special discounts, please visit our website at www.IPAInstitute.com.

Project Management Best Practices (22 PDUs)

April 13 - 15: Pittsburgh, Pennsylvania¹

May 4 - 6: Johannesburg, South Africa¹

June 16 - 18: Curitiba, Brazil

April 21 - 23: Shanghai, China

June 1 - 3: Calgary, Canada¹

July 7 - 9: Santa Cruz, Bolivia

Webinars
Also
Available

Establishing Effective Cost & Schedule Processes (14 PDUs)

April 16 - 17: Pittsburgh, Pennsylvania¹

May 12 - 13: Santiago, Chile

August 18-19: Curitiba, Brazil

May 7 - 8: Johannesburg, South Africa¹

June 4 - 5: Calgary, Canada¹

Gatekeeping for Capital Project Governance (16 PDUs)

April 30 - 31: Houston, Texas²

Best Practices for Small Projects (22 PDUs)

April 7 - 9: Curitiba, Brazil

July 7 - 9: Johannesburg, South Africa

April 8 - 10: Perth, Australia

Megaprojects - Concepts, Strategies, and Practices for Success (22 PDUs)

April 27 - 29: Houston, Texas²

Practices for Shorter, More Cost Effective Turnarounds (14 PDUs)

June 17 - 18: The Hague, The Netherlands

New Bundled Courses

¹ **Project Management Best Practices** and **Establishing Effective Cost & Schedule Processes** are bundled together for select locations.

² **Megaprojects - Concepts, Strategies, and Practices for Success** and **Gatekeeping for Capital Project Governance** are bundled together for select locations.

In-House Solutions

Whether you are looking for a Tailored or Off-the-Shelf seminar, IPA Institute in-house training solutions provide a company-focused, cost-effective vehicle to educate large groups within an organization or project team.

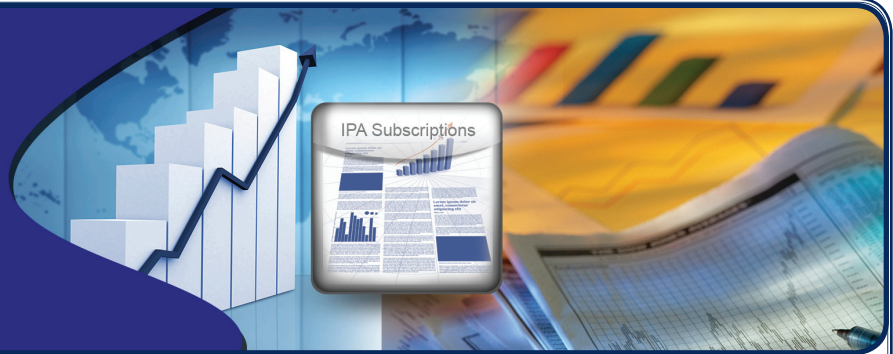
Improve your company's existing internal training program(s) by incorporating the IPA Institute's extensive experience in capital project research, training, and instructional design.

PMI Registered Education Provider

The IPA Institute is a Registered Education Provider (REP) of the Project Management Institute (PMI). All IPA Institute seminars align with current PMBOK standards, enabling PMI credential holders (PMP, PgMP, PMI-SP, PfMP, etc.) to claim Professional Development Units (PDUs) upon completion of each IPA Institute course.



IPA's SUBSCRIPTION SERVICES



EPC Market Forecast Newsletter

Providing historical and forecasted escalation indices for global capital project cost categories, IPA's *EPC Market Forecast Newsletter* has become the standard source of cost escalation information of the Engineering, Procurement, and Construction markets and is widely used in estimating the escalation line item in cost estimates.

Using IPA's project's database, price trends are forecasted 5 years ahead for project cost categories, including:

- Engineering Services
- Construction Labor
- Major Equipment
- Bulk Materials
- Composite Regional Price

Published quarterly, the newsletter is available to existing IPA clients on an annual subscription basis.

Business Professionals' Capital Projects Newsletter

The *Business Professionals' Capital Projects Newsletter* is for the business professional who recognizes financial returns are directly related to capital project performance.

The connection between business and capital project representatives has proven to be a critical leveraging point for improved financial returns.

Through data, articles, and discussion points, this newsletter quantifies the benefits and practices surrounding the business connection to projects, which can help your organization improve the connection between these two functions.

Issues of the newsletter also feature exclusive interviews with industry experts, case studies, and recent IPA research.

Western Canada Capital Projects Journal

The *Western Canada Capital Projects Journal* aims to deepen and quantify the collective knowledge around regional/local issues that shape how projects are developed.

The goal is to help organizations better manage the Western Canada regional constraints so that capital project performance is improved.

Reasons for these regional challenges include weather-related issues, infrastructure constraints, local labor characteristics, contracting norms, social and political issues, and environmental concerns.

Each edition of the newsletter takes a new step to helping readers better understand and quantify these local challenges.



For more information about IPA's subscription publications, contact Dean Findley at dfindley@ipaglobal.com.