IPA

Independent Project Analysis Newsletter

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.

Volume 4, Issue 2 **September 2012**

Research Spotlight:

Failure to Produce: An Investigation of Deficiencies in Production Attainment

N. Nandurdikar and L. Wallace

Oil and gas companies are engaged in the business of exploration and production. Producing and selling hydrocarbons is what makes money for these companies. Therefore, attaining a high level of stable production relative to plan is critical to achieving these goals. High production attainment then is an indicator of the company's ability to select the right projects and develop the projects right.

Disappointingly, over the last 15 years, Industry's ability to deliver production as planned has degraded. Projects that started up in 1995 were delivering, on average, 94 percent of the planned production; projects today, on average, are delivering only 75 percent of planned production—a nearly 20 percent loss in 15 years! This implies that, on a price-normalized basis, projects are delivering significantly lower returns than promised at project sanction.

Industry's production attainment performance has led IPA to investigate the drivers of this performance.

Definitions and Methodology

Production attainment is simply the ratio of the actual production divided by the planned production promised at project sanction or FID. We use two measurements of production attainment: ***production attainment in months 7 to 12 after startup*** and ***production attainment 2 to 5 years after startup***.

The only normalization done to the production attainment metric, as described above, is to adjust for schedule slip. Because E&P projects tend to slip their first production dates, we adjust the production attainment metric by comparing the first month of *actual* production with the first month of planned production. For example, if a project planned to start up in January 2000, but, in fact, did not start producing until April 2000, we "ignore" the 3 months of non-production and align the actual first month of April 2000 with the planned first month of January 2000 to calculate the attainment.

The data used for the production attainment are a subset of 150 projects from from the Offshore Oil and Gas Production Database developed and maintained by Independent Project Analysis, Inc. This database contains detailed facilities, well construction, and reservoir information on industry E&P developments. The projects within IPA's database are distributed around the world in many of the producing provinces.

Expectations Versus Reality

Before we understand the drivers of production attainment, it is important to understand the actual performance and what it says about our expectations. The illustration shown in ***Figure 1*** depicts this performance and compares it to industry expectations.

As ***Figure 1*** shows, the actual historical experience (shown by the yellow curve) is significantly different and skewed toward overestimation than the expectations. The general

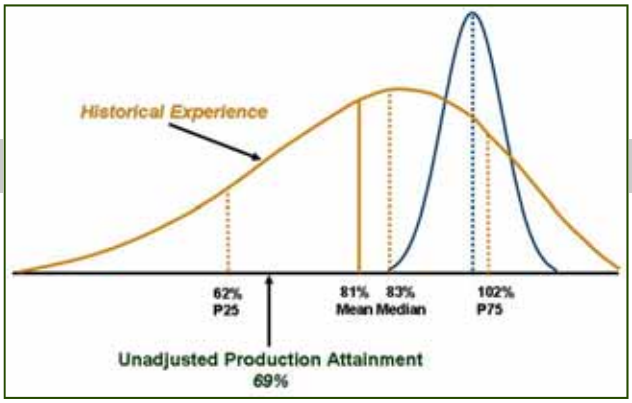

Figure 1. **Industry Production Attainment in Months 7 to 12 After Startup:** ***Historical Experience Does Not Match Industry Expectations***

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[1] Slip is measured as the actual time from FID to first production divided by the time promised at FID.

[2] The astute reader will realize that because of this adjustment, the actual industry performance is much worse than reported in this study. Furthermore, from a company's business unit standpoint a delay in product can be very devastating for cash flow.

Inside this issue:

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expectation of project teams is a very normal distribution. In other words, on average, they expect to achieve their planned production albeit with a chance that on the low end they might produce 75 percent of plan or 120 percent of plan on the high side. The reality is that Industry only delivers 81 barrels for every 100 promised. Further, the top quartile (top 25 percent of the projects) range starts at 102 percent of plan, as shown by the p75 number; that is, 75 percent of industry projects never deliver to plan[3]. Unfortunately, this poor performance is not limited to just the second 6 months of production. ***Figure 2*** shows the production performance, depicted by the mean (red line) with the standard deviation around the mean (blue bar), for projects with 4 years of production data.

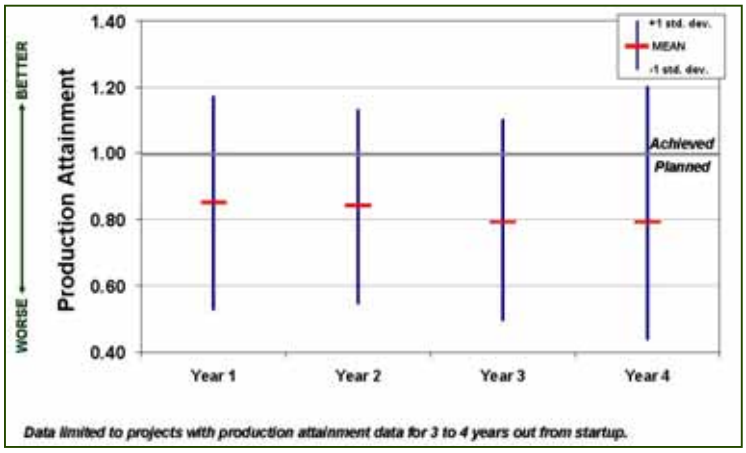

Figure 2. **Production Performance in Out Years:** ***Even in Out Years, Attainment Does Not Improve***

The data clearly show that there is no truth to the commonly held belief in Industry that while the second 6 months of production might lag the plan, production improves in the out years. As the data show, even 4 years after startup, the average production is still only 80 percent of plan; in fact, it is slightly worse than in year 1 and year 2. This means that most industry projects fail to deliver positive net present value (NPV) on a price normalized basis. In other words, if not for the high oil prices, this production performance would mean that companies are failing to return their cost of capital.

Drivers of Production Attainment

IPA has been studying production attainment over a decade and has seen a common set of issues across all projects that suffer from poor attainment. They fall into the following four broad categories:

- ***Lack of basic reservoir data or reliance on incomplete or assumed reservoir data***
- ***Failure to learn and plan from past experiences***
- ***Poor quality of sanction production forecasts***
- ***No single point of accountability for production performance***

Basic Data Strategy

Aggressive appraisal, which is usually driven by a capital constraint or the speed to first oil, means that sufficient good quality data are not available for a complete reservoir appraisal. Compromises are typically made around the long-term production tests, running full cores versus sidewall cores, and the number and quality of the fluid samples. By definition, incomplete or poor quality reservoir data (e.g., contaminated fluid samples) mean that project teams are forced to make assumptions about missing data or any remaining risks in their forecasts. Based on the data, it appears that these assumptions almost always turn out be more optimistic than expected. This, in turn, is because project teams, comprised of humans, follow normal human tendency and tend to always be optimistic about their project and, more importantly, because E&P companies do not systematically conduct root cause analyses or lookback reviews specifically for understanding production shortfalls.

Failure to Learn and Plan from Past Experiences

Most projects do not perform a lessons learned or root cause analysis to understand ***production shortfalls*** and to assess the reasonableness of the assumptions in the original forecasts. Just over 30 percent of all industry projects developed production attainment-related lessons learned. In contrast, more than half of all projects conduct a lessons learned exercise to understand cost and/or schedule deviations. Further, most companies and project teams lacked consistent processes for identifying production attainment lessons learned. Therefore, one has to wonder if these companies even know how bad real production performance is and what the systemic drivers are.

Of the teams that did conduct production attainment related lessons learned, internal root cause analyses identified that 50 to 75 percent of all reasons for lower than planned production are reservoir- and well construction-related issues. Further,

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[3] Project that delivers to plan will have an attainment of 100 percent.

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as ***Table 1*** shows, reservoir-related problems have the largest and most lingering effect on production. The table shows that projects that only experienced a facilities issue eventually overcame the problem and reached about 88 percent of planned production. Similarly, projects with only well construction issues eventually reached 75 percent of production. However, projects with just reservoir problems were only able to reach 53 percent of the planned production volumes. Examples of these issues can be found in the direct quotes from project teams provided below.

Factor	Impact on Production
Facilities	88%
Wells	75%
Other	55%
Reservoir	53%

Table 1. **Root Cause Analysis Factors and Their Impact on Production**

Root Causes of Lower Than Expected Plateau:

"Reservoir more compartmentalized than expected"

"Major reduction in plateau rate due to lower than assumed recovery factor"

"Assumed continuous sand sheet model; turns out not to be the case"

"Static model was very optimistic. Model predicted P50 permeability of 5md while actual was 1md, less than P10"

These examples indicate that production attainment forecasts, based on such assumptions, must be biased to the high side, which leads to the consistent attainment shortfalls.

Quality of Production Forecasts

Projects with poor attainment all followed standard company processes as well as commonly accepted technical methods, conducted peer assists and peer reviews, completed very sophisticated reservoir modeling, and built complex risk assessment models and simulations. Yet, all of these assurance mechanisms failed to flag the risks or highlight the uncertainty prevalent in the underlying forecasts and basic data. This points to the limitations of the assurance systems and checks and balances that project teams have come to rely on. Tools are only as good as the inputs and the data suggest that we always find ways, which are mostly process driven, to paper over gaps in basic reservoir data or optimistic reservoir assumptions. Admittedly, our risk analysis and decision analysis tools are very sophisticated. We believe, in fact, that the very presence of these gatekeepers gives us a false sense of security and makes us less alert to the quality of the underlying data. The only way to improve the production attainment performance is to understand the causal path that led to failure in the first place and this is where the lack of accountability for production problems becomes a significant impediment.

Lack of Single Point of Accountability

Every function is responsible for contributing to the shortfall in production attainment, making it easy to cast blame on "the other function." In fact, when we talk to teams 1 year after production startup, the oft cited comment is, "I can speak to what's happening now, but I didn't put the forecast together so I can't say why the estimates were so optimistic." There is no single point of accountability for production performance. The project manager is responsible for delivering the project on budget and on time, but is not accountable for a project's performance after first oil. The subsurface personnel that created the initial forecasts have long left for other projects. Even the gatekeepers who conducted the assurance reviews are not held responsible for failing to flag the risks. This is a perfect set up for the governance situation we see in the E&P industry vis-à-vis production: Everyone is responsible, therefore no one is really responsible or accountable.

Conclusions and Recommendation

The performance of the E&P industry in delivering the planned production is the worst of all industrial sectors that IPA tracks and is getting worse every year. The reasons for the shortfall can be broadly categorized into three independent, but interrelated, factors: (a) a lack of basic data, (b) a simple failure to plan, or (c) a lack of a single point of accountability. If companies are serious about improving their production performance, they should follow the simple framework of *Better Data, Better Decisions, Better Outcomes*.

Better data not only mean good quality basic data, but also collecting all necessary critical data. Industry data show that of all projects that achieved a production attainment of 90 percent or better, 70 percent followed a conservative appraisal strategy, while only 10 percent were aggressively appraised. On the other hand, just 45 percent of projects with attainment lower than 90 percent had a conservative appraisal. But better data also mean collecting information on actual performance to make better decisions. If we do not really know how good or bad the performance is, we cannot begin to understand why and, if we do not know why, then we cannot affect our decision making for the next time around. Better data will also mean

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that gatekeepers can challenge, with data rather than opinions, the assumptions and quantification of risks and uncertainties in our forecasts. Better data will also allow us to reevaluate the value of information analysis exercises, which often use very optimistic outcomes compared to reality. Better decision making through better data will therefore lead to improved outcomes. However, none of this will be possible unless we establish a single point of accountability for production performance.

Professional Profile: *Neeraj Nandurdikar, Manager Exploration and Production*

Neeraj joined IPA in January 2000 and is currently the Co-Manager of IPA's Exploration and Production (E&P) business area. In his role, Neeraj oversees the global business and intellectual property development needs for the E&P business sector of IPA. E&P business encompasses all aspects of oil and gas production projects from discovery to full production two years after startup.

Previous to taking on his current position in 2006, Neeraj held various positions within the E&P business area that involved project evaluations, consulting engagements, work process reengineering as well as key account manager for some of IPA's largest clients. He has also completed various research studies presented at IPA's Upstream Industry Benchmarking Consortium (UIBC) and has Coordinated multiple UIBC conferences. He has authored papers published in Society of Petroleum Engineers (SPE) conference proceedings.

Neeraj holds an M.S. in Petroleum Engineering from The University of Tulsa and an MBA from The Wharton School of The University of Pennsylvania.

Professional Profile: *Luke Wallace, Senior Research Analyst*

Luke joined IPA in 2004 and is currently a Senior Research Analyst in IPA's Product Development Group. Luke has contributed to a variety of research studies for both the IBC and UIBC and related committees. In addition, he is responsible for developing various statistical tools for evaluating projects, including pipeline models, productivity models, and petroleum E&P models. Luke's areas of expertise include marine pipelines, fixed platforms, SPARs, TLPs, subsea systems, engineering and construction productivity measures, and schedule practices.

Luke holds a B.S. in International Business and a B.A. in French from The University of Rhode Island.

IPA President Edward Merrow Receives 2012 AACEI Award of Merit

The Association for the Advancement of Cost Engineering International (AACEI) has named Independent Project Analysis (IPA) Founder and President Edward Merrow the recipient of the 2012 AACEI Award of Merit, the association's highest individual honor for outstanding service and meritorious accomplishments to the cost management and cost engineering profession. Merrow becomes the 60th recipient of the Award of Merit, which is selected each year by the AACEI Awards & Nominations Committee.

The award was formally announced at the AACEI 56th Annual Meeting held in San Antonio, Texas, on July 10, 2012.

The goal of the *IPA Newsletter* is to provide you with research-based articles on current capital project issues, announce upcoming IPA events and IPA Institute course offerings, and introduce new and future IPA products that can improve your project management systems.

To subscribe to the IPA Newsletter and to view an archive of all past issues, please visit our website at *www.ipaglobal.com/Newsletter*.

To be kept informed regarding upcoming IPA Institute programs and courses being developed for capital project improvement, please join our mailing list at *www.IPAInstitute.com*.

IPA Research Study to Focus on the Drivers of Capital Project Success in China

Natalia Zwart, Manager, Chemicals, Life Sciences, and Nutrition

New IPA Research Study!

Western companies have executed hundreds of major capital projects in China over the last several decades. The trend continues, as many major global companies have current plans to invest additional billions of dollars in the Chinese economy. However, the practices necessary to execute the most cost- and schedule-efficient projects in China are still not well understood. When it comes to China, many Western companies continue to struggle with framing and executing successful capital projects. China is an ever-changing dynamic market and requires constant reevaluation of approaches to succeed. Costs of building capital projects in China have been steadily increasing over the past several years.

To advance industry knowledge for successful project execution in China within the current marketplace, Independent Project Analysis (IPA) is initiating a new multi-client research study. The 2012 China Study will build on IPA's previous China Studies from 2005 and 2009 through the analysis of existing capital projects in IPA's project database and additional projects provided by participating companies. The specific goals of the 2012 China Study are to:

- ***Evaluate the performance of recent projects in China and statistically compare these outcomes with those typical for industry projects in the West***
- ***Identify and evaluate the practices that are correlated with the best project outcomes in China***
- ***Evaluate the differences in regional performance between the centers of capital activity in the Yangtze and Pearl River deltas versus inland locations***
- ***Provide an in-depth analysis of the China-specific practices that affect performance***
- ***Review practices used for ongoing projects to understand how companies incorporate lessons learned into their ongoing work***
- ***Evaluate recent trends in cost estimating and schedule planning***

The China study participants will gain access to data on actual project performance from the most recent industry experience in China and in-depth discussions of the strategies that lead to success.

History of IPA's China Studies

In 2005, in its first multi-client China Study, IPA evaluated a variety of topics, including organizational structures (joint ventures versus wholly owned enterprises, use of project management companies, etc.); approaches for working with Chinese Design Institutes (CDIs); the business role in project success; and relationship building and its effect on project cost, schedule, and operability performance.

In 2009, after the instability created in the project world by the global hot market, IPA's second China Study concentrated on regional cost and schedule differences between the Shanghai area and South China. IPA evaluated team structures and the use of fully localized versus expatriate-involved teams, examined ongoing trends for construction and construction schedules, and deepened our understanding of what is needed in a relationship with a CDI and the benefits it realizes.

Most importantly, for each of the China Studies, IPA calculated realistic adjustment factors for China cost and schedule categories that our clients could use internally in their project planning processes.

What We Have Learned So Far

Both of the IPA studies on China dispelled the myth that China offers at least 50 percent savings over the USGC for a like-for-like project scope. In reality, those savings are on the order of 10 to 30 percent and getting smaller over time as China's construction price escalation outpaces that of the USGC. Moreover, IPA found that project performance varies across projects and that significant cost savings are not guaranteed by simply moving a facility to China. The studies concluded that performance is improved by using a number of prudent project practices.

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Key Drivers of Project Performance in China:

- Use of industry Best Practices delivers better results in China
- Increased reliance on local content improves performance
- Protecting intellectual property (IP) adds cost to projects
- Business role is critical for project success

Key Questions to Answer In 2012 China Study

IPA's 2012 China Study will provide detailed information on cost, schedule, operability, and safety performance of recent projects. Deliverables will show the actual cost performance by Level 1 cost categories and schedule performance by phase. IPA will also revisit the controllable project management practices that in the past contributed to more effective project outcomes, including organizational structure (Joint Venture versus Wholly Owned Enterprises), permitting process, approaches to intellectual property protection, and contracting strategies. We will investigate any changes in the application of these practices since the 2009 analysis and evaluate any new practices that lead to successful results.

IPA's 2012 China Study will provide an in-depth analysis of the China-specific practices that affect performance and will answer numerous new questions and concerns that have arisen since the previous studies were completed. IPA's previous research on China identified local content management as an important driver of project success. The 2012 China study will focus on various approaches Western companies take to successfully increase the amount of China local content, including ***team resources and local staff development***, ***contracting***, and ***procurement practices***. The following sections describe some of the research questions that the 2012 China Study will investigate in each of these areas of local content management.

Team Resources and Local Staff Development

- What determines staffing approaches (e.g., project type, size, technology, location, etc.)?
- What types of projects are executed by all-Chinese teams?
- What are the effective engineering office support structures?
- Are third-party country engineering value centers effective for China projects?
- Which positions are staffed by expatriates and which by locals?
- Are project management firms effective in executing projects in China?
- How do Western companies approach in-house resource development and retention in China?

Contracting

- What are the major project execution models and trends in China?
- What are Western companies' experiences with involving contractors in each of the phases of project definition and execution?
- What are the best strategies to select and qualify contractors in China?
- What are the challenges and opportunities in working with Chinese Design Institutes? What are the best approaches to managing engineering quality?
- What are the best approaches to work with Chinese construction companies and construction management organizations?

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Procurement

- What are the main procurement trends in China?
- What percentage of equipment do Western companies procure in China?
- What are vendor capabilities in China?
- What types of equipment are now available in China and have been successfully used by Western companies?
- What impact does locally procured equipment have on operability and quality?

The IPA 2012 China Study will also evaluate new strategies for quality control and Intellectual Property Protection that are associated with an increase in local content and their impact on cost, schedule, and operability of a facility.

IPA's 2012 China Study Methodology

1 Develop Database Used for Analysis

- ***Collect new detailed information on recent projects executed in China***
- ***Use recent data to supplement IPA's extensive China Project database of over 200 major capital projects executed since 1998 by 37+ companies***
- ***Review China project performance time trends***

2 Generate the Basis of Comparison: *"Twins"*

- ***Develop a set of "twin" projects located on the U.S. Gulf Coast (USGC) for each China project***
- ***Make a scope-for-scope comparisons between projects executed in China and "twin" projects on the USGC***

3 Evaluate China Project Performance

- ***Compare various performance metrics between the projects executed in both countries, including cost, schedule, safety, and operational performance***
- ***Quantitatively analyze and identify key practices that specifically improve effectiveness of China capital projects and lead to better business performance***

Deliverable

The results of the 2012 China Study will be shared with the study participants only. We will present the results to each participating company separately at the conclusion of the study. Each company will receive a detailed briefing that identifies the findings. The deliverable will cover a discussion of expected outcomes, Best Practices, lessons learned, and a path forward to address newly identified opportunities. All information will be safeguarded and treated as confidential and proprietary. At no time will individual company information be released to third parties.

How to Participate

If your company would like to participate in the 2012 China Study, or to request more information, please contact ***Natalia Zwart, IPA Manager, Chemicals, Life Sciences, and Nutrition,*** or ***Greg Ray, IPA China Director of Business Development*** at ***IPAChinaStudy2012@ipaglobal.com***.

Mining and Mineral Project Cost Metrics Presented at the CEC

Baqun Ding, Senior Project Analyst

Developing new mine assets and expanding existing operations have become more and more costly. The drivers of the high capital requirements vary across all technical, environmental, social, and economic factors. However, the fundamental driver of this cost trend is simply that the easy-to-recover deposits are nearly depleted, which is forcing mining companies to look at opportunities to invest in mining more difficult orebodies located in areas that are hard to reach.

Increased orebody difficulty—measured in terms of the depth of deposit location, ore grade, and ore refractoriness—has elevated the initial capital requirements for mine development (underground versus surface mines or high volume of overburden removal) and complex concentration and treatment facilities construction. Remote orebody locations have also re-

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sulted in intensive capital input to develop the basic infrastructure, build up the workforce, maintain environmental compliance, address community requirements, and ensure sustainable development. Higher capital and operating costs, in turn, often mandate a larger production scale to achieve the economies of scale necessary to provide a robust business case, which further increases the ultimate investment to develop the asset. Consequently, in recent years we have seen a rapidly growing number of multibillion dollar mine development cases.

To provide a means for our clients to assess the mine asset development capital investment requirements, IPA has initiated a program to collect data and develop industry cost engineering metrics for this class of projects.

The metrics will be classified into four different categories: orebody definition, surface mining, underground mining, and mineral processing and treatment. Orebody definition will include the metrics for length of drilling versus orebody size or depth, payback period, and mine life, etc.; the surface and underground mining metrics will include, pioneering costs, total mine costs, development construction costs, mine equipment costs, infrastructure costs, etc. versus different factors (e.g., mine capacity, orebody size, depth, etc.); the processing facilities metrics will include the total facilities costs, equipment costs, office costs, and field labor costs versus different factors (e.g., plant capacity, mine capacity, orebody size, etc.). The initial suite of metrics will be presented at the IPA Cost Engineering Committee annual meeting in September 2012 (CEC 2012). For more information, contact ***Fred Biery, Manager Mining, Minerals, and Metals***, at ***fbiery@ipaglobal.com***.

InSites Corner: *Highlights from Small Project News and Research*

InSites is a blog dedicated to improving small project performance. **InSites** features a series of short articles to address issues specific to small, site-based projects. These articles will address everything from key practices to driving more competitive performance, to commonly asked questions about how to prepare for an IPA benchmarking.

To add your name to the distribution list or for more information regarding the blog articles below, please contact ***Phyllis Kulkarni*****,** Plant-Based Systems Manager, at ***pkulkarni@ipaglobal.com*****,** or visit the IPA InSites website at ***www.IPAGlobal.com/News-Room/InSites*****.**

InSites Blog Article: *Site Functionality: A New Tool for Site Benchmarkings*

Several years ago, IPA developed its "team functionality" survey, which we now routinely use on very large or complex projects. This short questionnaire provides invaluable insight into the project team's confidence in the project and alignment around key issues. It has proved to be a powerful tool, along with IPA's other metrics, for diagnosing large project risks.

To bring this tool to bear on small projects, we adapted it for use on site benchmarkings. In a site benchmarking, we measure a sample of 8 to 10 small projects. Therefore, the "site functionality" survey focuses on system issues, rather than individual project concerns. The questionnaire investigates areas such as:

- Alignment of key stakeholders, including projects, maintenance, technical services, etc.
- Plant management buy-in on use of Best Practices
- Practices that IPA research has shown to be critical for site improvements in competitiveness and predictability

We have used the site functionality tool on about 6 sites to date and it has been very well received. The survey is just 2 pages long and takes about 10 minutes to complete, so it is a quick and easy addition to IPA's standard site benchmarking workbooks. It can be completed by anyone at the site who contributes to project development, not just the project teams involved in the benchmarking. The companies that have tried out the tool have requested IPA to make it a standard part of site benchmarkings. ***Figure 1*** and ***Figure 2*** provide examples of how Site Functionality data may be reported.

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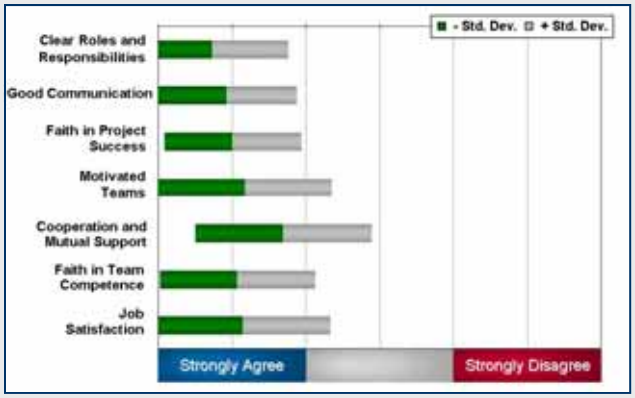

Figure 1. **Site's Leading Practices:** ***Excellent Teamwork***

Figure 2. **Site's Lagging Practices:** ***Lack of Resources Drives Other Issues***

Going forward, we will look to develop industry averages and conduct research on the relationship between site functionality and other site practices and performance, just like we have done with the large project team functionality tool.

InSites Blog Article: *Making Contractor Alliances Work*

Most manufacturing sites depend on contractors to fill a number of key roles. Some of these sites have chosen an alliance approach, in which they have locked in a long-term relationship with a single contractor. When IPA benchmarks these sites, the owner company typically wants to know if the alliance is performing well. When IPA benchmarks sites that do not have a contractor alliance, they often ask us whether we recommend the alliance approach. These sites wonder if they would get more competitive costs or better definition or any number of benefits by allying with a single contractor.

IPA research on alliances shows that they are not a cure-all for sites. We have seen top performing alliances and terrible alliances—and in some cases, these involve the same owner and same contractor working together at different sites!

So we do not recommend an alliance approach, but we also do not recommend against it. If you do choose an alliance, here are some tips to keep in mind:

Effective alliances have...

- ***Focused objectives:***
  What are the key goals of the project organization? How will each party benefit from the arrangement?
- ***Limited expectations:***
  The contractor should be engaged in those roles for which they are best suited, not used as a stand-in for the owner in every possible circumstance.
- ***Strong owner involvement in Front-End Loading:***
  Contractors tend not to be as effective as owners in 1)scoping projects and 2) obtaining input from plant personnel—owner involvement early on helps keep projects on track.
- ***Training of contractor in owner's processes:***
  We observed recently at a site that half the project managers are contractor personnel. Yet the site's training policy does not permit contractors to attend the same formal work process training as owner personnel. This situation is not tenable—either train your contractor personnel appropriately or do not let them fill roles for which only your personnel are trained!
- ***Use of effective measurement systems:***
  Simply measuring "% office cost" is not effective; good alliances use a variety of metrics to track both practices and performance.

Alliances that combine the above practices along with adherence to a good project work process tend to produce projects that meet all their objectives.

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Upcoming IPA Events & Presentations for 2012

September 24

IPA to Speak at 2012 SPE Hydrocarbon Economics and Evaluation Symposium

Neeraj Nandurdikar, IPA Manager of Exploration & Production is scheduled to speak at the upcoming Society of Petroleum Engineers Hydrocarbon Economics and Evaluation Symposium in Calgary, Alberta, Canada, from September 24 to 25, 2012. The presentation, titled *The Economic Folly of Chasing Schedules in Oil Developments and the Unintended Consequences of Such Strategies*, will focus on how faster oil and gas project schedules destroy more value than they create. Visit the conference website for additional details at ***http://www.spe.org/events/hees/2012/*** .

October 8

Ed Merrow to Participate in Megaprojects Panel Discussion at ATCE 2012

IPA CEO Edward Merrow is set to participate in an industrial megaprojects panel discussion dinner event at the SPE Annual Technical Conference and Exhibition in San Antonio on October 8, 2012. The *Learnings from Facilities Megaprojects Dinner* special event will highlight some of the largest and most innovative industrial capital projects that have paved the way for others. Visit the official ATCE 2012 website for more information about the event at ***http://www.spe.org/atce/2012***.

November 12 - 14

UIBC 2012 in Tysons Corner, Virginia

The Upstream Industry Benchmarking Consortium (UIBC) provides an independent forum for each participating company to view its performance against the performance of other companies. The consortium highlights Best Practices, reinforcing their importance in driving improvements in asset development and capital effectiveness. Consortium attendees learn ways to improve specific elements of capital project execution through presentations and other more interactive discussions. For more information, please contact **David Rosenberg** at **drosenberg@ipaglobal.com**.

THE IPA INSTITUTE
ADVANCING PROJECT KNOWLEDGE

2012 IPA Institute Programs Schedule

To view full course descriptions, pricing, up-to-date registration details, and special discounts, please visit our website at www.IPAInstitute.com

Exploration and Production Project Best Practices (22 Professional Development Units)

September 18 - 20: Rio de Janeiro, Brazil

Best Practices for Mining Projects (16 Professional Development Units)

September 25 - 26: Belo Horizonte, Brazil
October 23 - 24: Toronto, Canada

Best Practices for Small and Plant Projects (22 Professional Development Units)

September 25 - 27: The Hague, The Netherlands
November 6 - 8: Salvador, Brazil
November 27 - 29: Perth, Australia

Megaprojects - Concepts, Strategies, and Practices for Success (22 Professional Development Units)

October 2 - 4: Brisbane, Australia
October 9 - 11: Santiago, Chile
October 15 - 17: Houston, Texas
October 23 - 25: Johannesburg, South Africa
December 11 - 13: Bangkok, Thailand

Contracting in the Changing World of Projects (12 Professional Development Units)

October 23 - 24: Rio de Janeiro, Brazil

Project Management Best Practices (22 Professional Development Units)

November 27 - 29: Abu Dhabi, United Arab Emirates
November 27 - 29: Buenos Aires, Argentina

UPSTREAM INDUSTRY UIBC 2012 BENCHMARKING CONSORTIUM

The UIBC provides an independent forum for each participating company to view its performance against the performance of other companies. The consortium highlights Best Practices, reinforcing their importance in driving improvements in asset development and capital effectiveness.

DETAILS: Annual meeting of the UIBC 2012 will be held ***November 12 - 14, 2012,*** at the ***Hilton McLean in Tysons Corner, Virginia***.

AGENDA TOPICS: The agenda focuses on the long-term UIBC vision of sharing performance results and practices in all aspects of E&P asset capital effectiveness, and was prepared with the guidance of the UIBC Steering Committee.

Performance Metrics

The centerpiece of the UIBC conference is the sharing of asset development outcomes and practices of the participating project systems. The plenary metrics sessions will highlight overall industry trends and overall metrics as well as company metrics. In addition, breakout sessions will be held to discuss company-specific performance.

Barriers to Project System Improvement: Why Some Companies Choose to Fail

This study draws on the history of IPA's E&P clients to understand why some companies succeed while others make a choice to fail or fail simply by default.

Team Functionality

This study introduces measures of project difficulty and company experience, and discusses the challenges of developing a well-functioning team and good FEL on a difficult or complex project compared to a standard project.

FPSO Study

This research aims to analyze the reasons behind the decisions on concept selection, as well as FPSO contract selection criteria and their influence on the historically poor outcomes of FPSO projects.

NPV Study

This study will link IPA's Pathway to Success to overall economic outcomes, and demonstrate the most optimal prioritization of cost, production, and schedule goals.

Appraisal Effectiveness, Phase II

This study will re-evaluate the Appraisal Effectiveness Index, updating the research for applicability to onshore and brownfield projects.

Exploration to Project Development Handover

This study is a survey-based approach to gaining an understanding of how the E&P Industry hands over projects from the exploration function to the project development function.

Are Sustainability Practices Lagging in the Upstream Oil and Gas Sector?

This analysis will compare oil and gas performance to other industry sectors and explore how addressing sustainability issues early contributes to project success.

For more information about the research topics and conference content, contact **David Rosenberg,** Senior Project Analyst, at **+1 (703) 726-5481** or **drosenberg@ipaglobal.com.**

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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.

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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.

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