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 5, Issue 2 **June 2013**

Supply Chain Risks to Large Projects in the U.S.

How Will Your Company Mitigate the Inefficiencies Created by the Hot Market?

Camila López, Associate Project Analyst

In our last newsletter we introduced IPA's U.S. Hot Market Study in the article "Supply Chain Risks to Large Projects in the U.S., *How Will Your Company Handle the Coming Hot Market in the U.S.?*" (Volume 5, Issue 1, March 2013). As explained, the goal of this study is to help owners navigate through the challenges of executing large projects in the hot EPC market that is likely to jeopardize the successful completion of capital projects in the United States over the next several years. The study will look at all facets of the supply chain, including equipment, fabricated materials, engineering, construction management, construction labor, and regulatory agencies. For each of these elements we will identify the most frequent failure modes during an overheated market, identify the problems that these failure modes create during project execution, and offer mitigation strategies that owners can implement to maintain capital efficiency in the coming market.

Failure Modes of the Supply Chain to U.S. Large Projects

An overheated market affects each element of the supply chain in multiple ways. In our study, we have identified these elements as the different modes in which a supply chain can fail to deliver what was expected when the project execution plan was defined. In the case of equipment suppliers, an unforeseen spike in price can result from demand exceeding supply. Equipment supply also fails by having overstretched suppliers, a decline in skill levels at the fabrication shops, and a limited number of contractors with the capacity and capability to transport and install heavy pieces of equipment. Similarly, engineering services also has multiple failure modes, which include understaffed and inexperienced contractors, overstretched disciplines, significant contractor turnover, or poor quality control of deliverables. The study has also identified multiple failure modes for the construction labor and construction management element, for fabrication shops and yards, and for regulatory agencies. In the end, this study will explain the most frequent failure modes for each element of the supply chain based on the performance of large U.S. projects executed from 2004 to 2008.

Inefficiencies Created by an Overstretched Supply Chain

Project costs in both Alberta and the USGC post-Katrina hot markets rose 10 to 20 percent, on average. These increased costs were driven by higher office costs and higher labor costs. The cost of materials also increased, but less so than office and labor. The office and labor accounts were affected to a greater degree because of inefficiencies in project execution created by the failure modes of the supply chain. For example, as mentioned previously, equipment supply can fail due to increasing prices, overstretched suppliers with a decreasing skill level at their shops, or because of a limited number of logistics and transportation contractors. IPA has identified that projects executed in the USGC post-Katrina were not affected much by the increase in equipment price because teams were able to accurately monitor the market and account for the higher prices in their estimates. However, teams did not foresee that equipment vendors would

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be unable to provide timely data to engineering, resulting in inefficiencies such as delays in issuing packages to the field, which affected construction productivity. Furthermore, teams were not able to anticipate the schedule constraints related to equipment logistics and transportation, which extended delivery times, affected construction plans, and led to significant cost growth. As observed in this example, past project experience suggests that although a supply chain can fail in multiple ways, only some failure modes have a significant impact on execution. For instance, the increase in equipment price did not affect execution to the same degree as the schedule delays observed in engineering and procurement. Thus, the intent of this study is to provide owners with information on the true critical failure modes based on the inefficiencies that are created in execution and the level of impact on project performance.

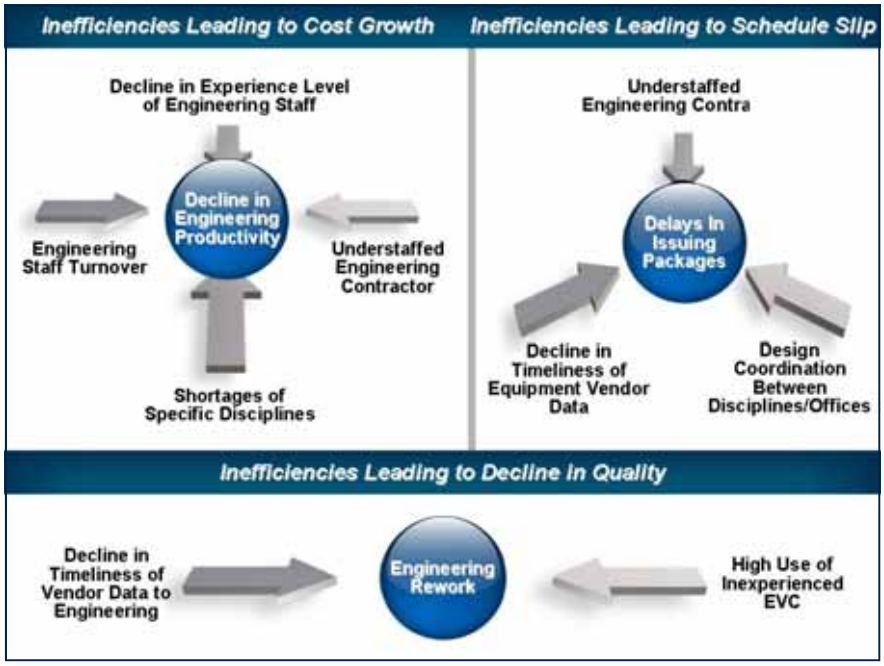

Figure 1. **Supply Chain Element: *Engineering***

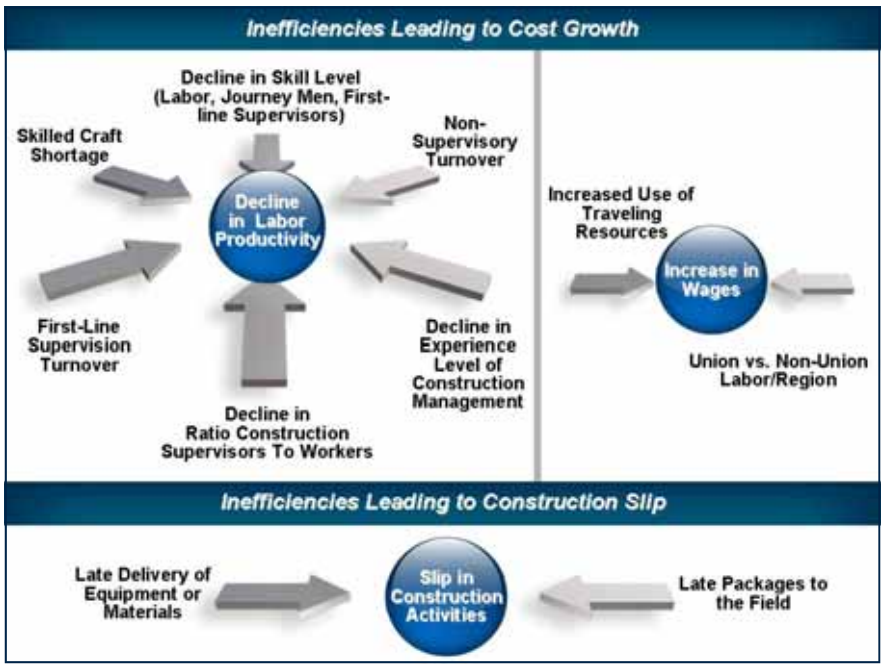

Figure 2. **Supply Chain Element: *Construction Labor and Construction Management***

Similar to the failure modes of the equipment element, this study has also identified the different ways in which an overstretched market can affect the performance of other elements of the supply chain. ***Figure 1*** provides an example of some of the failure modes of the engineering element and their resulting inefficiencies. During an overheated market, engineering contractors fail to keep up with the demand for their services an experience shortages. Projects also suffer from significant turnover of engineering staff moving from one competing project to the other. To compensate for this shortage, contractors often have less experienced personnel assume more senior roles and as a consequence, project teams suffer a decline in their experience level. These four ways in which the engineering element can fail lead to a decline in engineering productivity, which is one of the most critical inefficiencies in project execution that ultimately results in cost growth.

Figure 2 shows the failure modes for the construction labor and construction management elements. These

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two elements have several related failure modes that can lead to a decline in labor productivity such as shortages of skilled craft, a decline in the experience level of construction management, and significant turnover of supervisory and non-supervisory personnel as a result of competing projects in the same region. An inability to attract local labor, resulting in an increased use of traveling resources, is also one of the failure modes of the supply chain that can lead to an increase in wages. Both a decline in labor productivity and an increase in wages are some of the inefficiencies during project execution created by a heated market that erode capital effectiveness by driving cost growth. ***Figure 2*** also highlights some of the failure modes that lead to construction slip.

How to Navigate Inefficiencies in the Coming Hot Market

The boom in shale gas and oil production in the United States will generate close to US$90 billion of investment in the form of infrastructure and derivative capital projects. The supply chain to U.S. projects will likely be stretched and will heat up the market for project services.

How will the supply chain react this time? Will the same failure modes occur, and consequently, will the same inefficiencies affect project performance? This coming hot market has different drivers and characteristics than the one observed from 2004 to 2008, and it is thus likely that the supply chain's reaction will vary to some degree. This study is assessing the current capacity and capability of each element of the supply chain, and comparing these against the intended investment, to establish which failure modes are likely to be observed again. Some supply chain elements have expanded or have developed mechanisms to mitigate the effects of the market. Others, however, are in the same state as in the previous hot market, and therefore are at an increased risk of repeat failure. For these elements, this study is identifying specific strategies that have been used successfully in the past to mitigate the effects of the market. In the case of labor, strategies included how projects retained and attracted additional labor, how projects incorporated younger and inexperienced workers into their workforce, and how projects effectively increased the use of foreign workers. Identifying strategies such as these will be one of our study's main outcomes aimed at helping owners navigate through the challenges of the coming hot market.

For information on joining the U.S. Hot Market Study, contact Camila López, Principal Investigator at *clopez@ipaglobal.com* or *+1 (703) 726-5392* or Elizabeth Sanborn, North America Regional Director, at *esanborn@ipaglobal.com* or *+1 (703) 726-5384*.

Professional Profile: *Camila López, Associate Project Analyst*

Camila joined Independent Project Analysis, Inc. in 2010 and is currently an Associate Project Analyst in IPA's North America office. As a Project Analyst, Camila's areas of focus are the pharmaceutical, chemical, and refining industries. She has been the lead analyst on numerous large pharmaceutical and chemical capital projects and has participated in various site benchmarkings. In addition, Camila is IPA's client coordinator for a major global pharmaceutical and consumer products company.

Prior to IPA, Camila was involved in a study on phage therapy as an alternative to treat hospital-acquired infections under the auspices of the University of the Andes and Santa Fe Foundation in Bogotá.

Camila has a B.S. degree in Chemical Engineering and a Specialization in Bioengineering, both from the University of the Andes in Bogotá, Colombia.

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

Staffing Megaprojects Right

Kate Rohrbaugh, Research Team Leader for the Organization and Team Research Group, IPA's Project Research Division

The Motivation

There are more megaprojects being executed in the modern industrial sector than ever before. International oil companies must venture into deeper water, tap unconventional sources, and work in difficult environments; easily accessed mineral resources have largely been depleted; chemical companies must exploit economies of scale to compete globally; and infrastructure development requires projects to be large enough to spread the costs over a wide base of beneficial production to be economically sound.

Many owner companies lack the historical data needed to identify the organizational structure and the numbers of people needed to staff these types of projects. Using projects in the Exploration and Production (E&P) and Mining, Minerals, and Metals (MMM) industries, IPA researchers identified over 20 typical job functions (i.e., project management, project services, engineering, etc.) and over 90 common positions (i.e., mechanical engineering, cost estimating, etc.) as lead positions on megaproject teams. In all, the average project size in the current Megaproject Team Staffing (MTS) database is about $4 billion, from companies that include supermajors, independent oil companies, national oil companies, mining companies, and joint ventures. The projects were dispersed around the globe.

Detailed Findings on Functions and Positions

We find that megaproject teams mirror the complexity of the project itself. With a project around $100 million, the project management role might be filled by only one project manager, and sometimes a deputy project manager or project engineer for support. As projects become increasingly large and complex, the role of the project manager becomes disaggregated and separated into unique positions requiring additional staff. The lead position will often be a project director with multiple project managers who handle specific sub-scope elements on the project management team. This pattern of disaggregation holds for other functions as well.

Figure 1. **Most Common Contracting, Procurement, and Materials Management OWNER Positions by Phase**

One such "umbrella" function is contracting, procurement, and materials management, a set of functions that is most active during project definition (Front-End Loading 3) and early execution. This function may or may not

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be specified as a lead function on a project team, or it may be assigned to a contractor. Many of the projects in definition had at least one owner representative from this function (80 percent); of the projects in execution, 85 percent had at least one owner representative from this function.

The types of positions that were found in this set of functions varied. In ***Figure 1***, we list a range of titles for contracting, procurement, and materials management roles in the project definition and execution phases. Contracting-specific functions during definition included contracting leads, contract engineers, contracting specialists, contracts advisors, and contracts administrators. Contracts advisors were found with far less frequency on execution teams, indicating that this role is involved in identifying the appropriate contracting strategy during FEL.

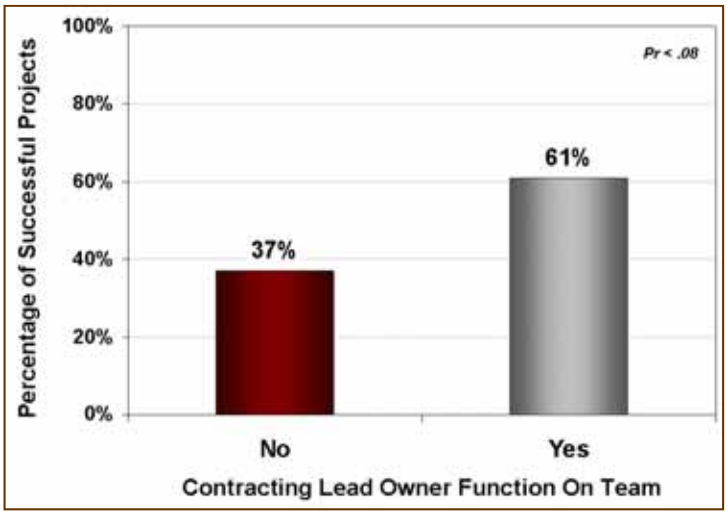

Figure 2. **Megaprojects with an Owner Contracting Lead Position on the Team During Definition Are More Likely to Be Successful**

For procurement functions, most positions during both definition and execution were either procurement lead or procurement specialist or buyer. In materials management, the definition team included positions focused on materials management and logistics. The position of supply chain management becomes more active during execution.

As shown in ***Figure 2***, projects that had owner representation in the contracting lead position during definition were more likely to be successful[1]. Sixty-one percent of the projects that had an owner contracting lead were successful, whereas only 37 percent of the projects without an owner contracting lead were successful.

Path Forward

There are numerous questions about staffing a megaproject team that can be addressed with the MTS Database. IPA has identified which owner-occupied positions during definition are associated with superior FEL, and which owner-occupied positions during execution and startup drive successful project outcomes. Additionally, IPA can provide clients with a headcount for optimal owner lead team size based on project characteristics.

Figure 3 illustrates an example of how we would present a summary of the headcount needed for your team. First, we provide an overall metric that summarizes assessments of the total staffing in terms of functional involvement or staffing "right." Additionally, we provide a summary assessment of the headcount, and identify the appropriate number of

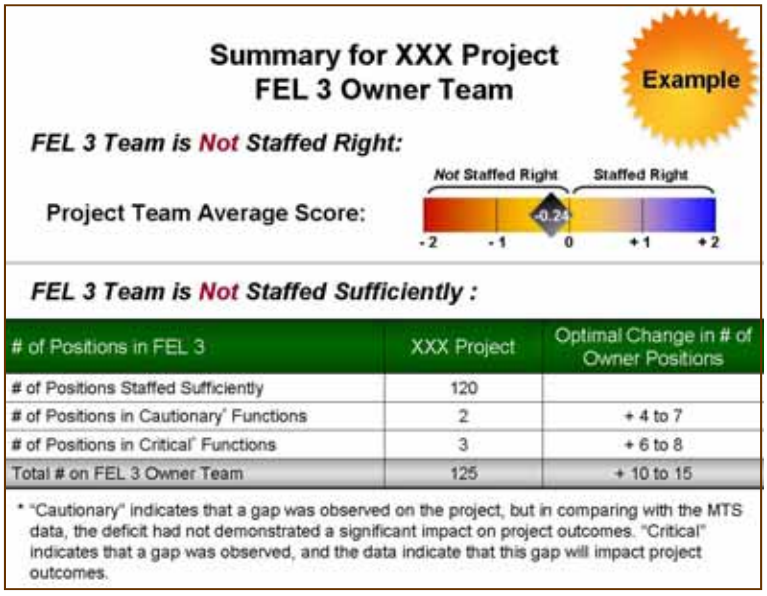

Figure 3. **Summary for Megaproject FEL 3 Owner Team *(Example)***

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[1] For the purposes of this study, "success" was defined as projects that had less than 25 percent cost growth and 25 schedule slip for completed projects and better than average Front-End Loading for projects in execution.

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staff members to have on the team based on similar projects in the MTS data.

IPA has already begun reviewing over 30 project teams from MMM megaprojects, and in the third quarter of 2013, IPA will start reviewing downstream megaprojects in refining, petrochemicals, chemicals, and distribution. Using the same approach, IPA will examine over 100 projects for which we have team data to identify those positions associated with good drivers and successful project outcomes. IPA anticipates that the findings of this assessment will be ready for Chemicals and Refining clients in late fall/winter 2013.

If you are interested in learning more, please contact *Kate Rohrbaugh*, Research Team Leader for the Organization and Team Research Group in IPA's Project Research Division, at *krohrbaugh@ipaglobal.com* or *+1 (703) 726-5465*.

The IBC 2013 annual meeting was held from March 18 to 21, 2013, in Lansdowne, Virginia. The agenda for this year's meeting focused on the theme of improving the quality of dialogue between the project systems and the businesses they serve.

Ratings from the attending 40 companies were among the best ever received. The research studies presented this year included the following: *The Dysfunctions of Capital Project Governance Boards; Project Strategy and Business Value; Leadership of Large Complex Projects; Project Scheduling Infrastructure; Sustainability Practices for Effective Project Shaping and Project Definition; Impact of Site Contracting Approaches on Site-Based Projects; Site Organizational Effectiveness.*

In addition to the research studies, IPA hosted a breakfast meeting for business leaders attending IBC 2013 that covered topics specific to business's role capital projects. IBC 2013 also included client presentations and discussion. Cargill and Newmont Mining Corporation representatives gave presentations on Driving Project System Improvement; presentation on site improvement was given by representatives from Shell's Puget Sound Refinery.

Selected research topics were presented to IBC companies unable to attend the main conference at the IBC 2013 Road Show, held at the World Trade Center The Hague, The Netherlands, on May 15 and May 16, 2013. For more information about the IBC annual meeting, please contact **Andras Marton**, Business Area Manager, HPT, at ***amarton@ipaglobal.com***.

In conjunction with the IBC 2013, IPA hosted the first annual Transportation Capital Project Forum on Tuesday, March 19, 2013. The forum was attended by individuals from eight different companies. The participants learned about pipeline industry trends, Best Practices, and IPA's latest research on the drivers of pipeline schedule performance. Forum attendees also participated in facilitated discussions to share insights and Best Practices, suggested topics for future research, and networked with other forum and IBC participants. Ratings and feedback from the participants were excellent, making the first annual Transportation Capital Project Forum a great success! For information on how IPA can help improve your pipeline and pipeline-related projects, please contact **René Klerian-Ramírez**, Deputy Business Area Manager, HPT, at **rklerian@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 achieving 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: *The State of Site-Based Projects*

Each year IPA benchmarks up to 30 sites around the world, collecting data on over 300 small, site-managed projects. With a total database of over 6,000 small projects, this ongoing work allows us to closely study trends at the manufacturing site level.

The most recent trends are promising, showing an uptick in both capital investment and use of key project Best Practices. The key trends are as follows:

Capital spend is on the rise

Of the sites that IPA benchmarked in 2012, the mean capital spend is $189 million, with a range from $5 million to $700 million. On average, these sites report a 24% increase in capital spend for 2013. While not every site planned an increase, the majority reported an increase, with the increase ranging from minor growth to a doubling of spend. Of the minority of sites that reported no change or a decrease in capital spend, few indicated market/business conditions as a driver of the decrease.

Practices are improving

The key practices that IPA measures include Front-End Loading (level of definition), team development, and project controls. All of these practices show steady improvement for small projects over the past 10 years.

- Companies that routinely benchmark their small projects are slowly but steadily improving their level of definition. There is still opportunity to improve, particularly in the area of project execution planning, but this improvement trend is narrowing the historical gap in definition between large projects and small projects.
- Team development continues to improve. Currently 75% to 80% of the small projects that IPA benchmarks have integrated teams, and the vast majority are initiated with clear business objectives.
- We see the most dramatic improvement in project controls. When we look at recent small projects, about 50% had an owner cost specialist validate the cost estimate, and about 60% had an owner controls specialist assigned to the team. Ten years ago, only 30% of small projects underwent an estimate validation, and only around 20% had an owner control specialist. To put this in perspective, if your small project system was applying these two practices 10 years ago, you were part of the vanguard. Now it's almost the norm. If you don't have a control specialist to support your small projects, you are now in the minority!

Small projects continue to underrun on average, but the underruns are less pronounced than in the past few years

Last year more than 60% of the small projects we benchmarked underran their estimate, by an average of 4%. In 2008 and 2009, the percentage of projects that underran was even higher, and they were underrunning by an even larger amount. It is encouraging to see small projects edging back in the direction of p50 estimating.

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However, too many small projects still set conservative cost targets, leading to underruns. It is important to remember that targetsetting is a key driver of actual performance – to get competitive cost outcomes, you need to use Best Practices and also set competitive targets.

In summary, these trends show that capital spend is increasing – and given the improvement in practices, many sites are in a better position to deliver their capital more effectively than in the past. But if your site is not improving, it is falling behind.

Too Few Mining Projects Begin Execution With Adequate Orebody Understanding

Fred Biery, Manager, Mining, Minerals and Metals and Baqun Ding, Senior Project Analyst

In recent months considerable turnover has occurred within the top executive ranks of major mining and mineral companies. Most of these changes have been driven by shareholder dissatisfaction with share performance relative to commodity price performance, project cost overruns, and high cost acquisitions. In several cases the root cause of project delays that led to high costs has been an inadequate understanding of the orebody.

The shape of a mining business opportunity is in part determined by the quality of the orebody, and the shape of the project is dependent on understanding ore characteristics. As ***Figure 1*** indicates, orebody understanding is the starting point for determining the scope of the processing facility, associated infrastructure, and mine planning. At the bottom of the graphic we have overlaid the typical project phases and stage gate decision points, beginning with business case development in the Front-End Loading (FEL) 1 phase, followed by the FEL 2 phase, scope selection, and so on. Increasingly, firms have been including a distinct scope selection gate, noted as Gate 2A, in the project development process. To select the appropriate scope for a project, orebody understanding work needs to be advanced by the FEL 2A scope selection point.

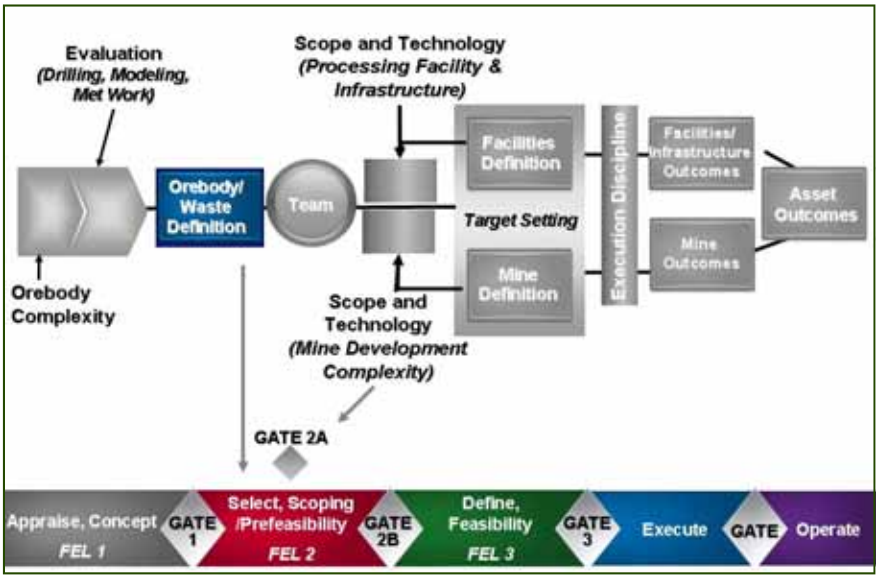

Figure 1. **Orebody Understanding Issues Drives Scope Development**

What do we mean by an advanced level of orebody definition? We mean that projects must complete the drilling and data acquisition activities associated with orebody identification and resource classification to justify the investment. These activities must pass company and regulatory quality assurance and quality control standards. Only about 20% of projects reach this level of definition by the end of FEL 2. The data acquisition activities must produce enough information to do the geological modeling work needed to characterize the orebody with appropriate levels of confidence. Necessary metallurgical work must be completed on enough material to

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assess processing options. Sufficient measured resources for the payback period must be identified. The work must be peer-reviewed and must satisfy accepted resource reporting standards. IPA considers projects that complete these key activities as having reached a *Definitive* status in orebody understanding.

As shown in ***Figure 2***, the industry is stalled in the *Preliminary* range of definition. This means that there are one or more gaps in orebody understanding. Often these gaps are associated with not having completed the drilling campaign because the drilling program was not sufficiently funded. In other cases, legacy data have been found to be problematic, or quality assurance/control procedures were not closely followed. Another common gap was associated with ongoing/incomplete metallurgical work.

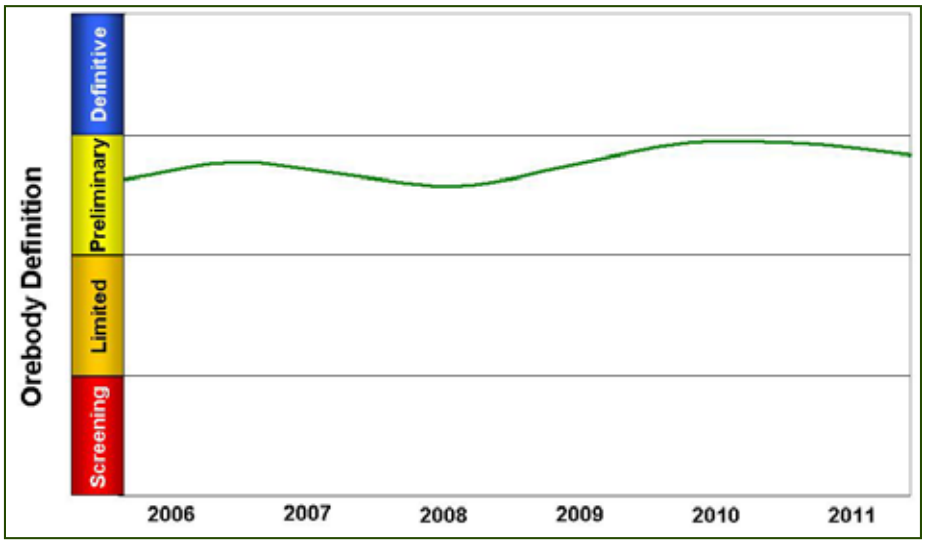

Figure 2. **Orebody Definition Has Not Improved Over Time**

Moving a project into FEL 3 or into execution with gaps in orebody understanding opens opportunities for costly changes. As more information becomes available from the drilling program and metallurgical work, changes to the mineral processing design must be made. Making process design changes in FEL 3 and execution is costly and time consuming. In more severe cases, the project is constructed only to discover that ore quality requires more equipment such as additional crushing at the front of the process.

Taking the time to complete orebody understanding activities is the first step in project success and should not be subject to shortcuts. We recommend that companies and project teams:

- ***Set the Pre-Feasibility / FEL 2 schedule based on the pace of completing the key orebody understanding tasks.***
- ***Make the Pre-Feasibility / FEL 2 gate a "difficult gate" to advance through by requiring that orebody understanding tasks be done in sufficient detail.***

For more information contact Fred Biery, Manager, Mining, Minerals and Metals, at *fbiery@ipaglobal.com* or Baqun Ding, Ph.D., Review Board Member, at *bding@ipaglobal.com*.

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*.

Research Corner:

Updates for IPA's Current Research Initiatives

Subsea Cost

The Subsea Cost study is now complete. IPA thanks the companies involved in the study, as they contributed a significant amount of technical information that greatly improved the end product. This study demonstrated strong and effective collaboration between IPA and Industry, and achieved excellent results; we hope to replicate such collaboration in future studies. The final deliverables of the Subsea Cost study have been issued to the participating companies.

Neeraj Nandurdikar, Business Manager for Exploration and Production: **nnandurdikar@ipaglobal.com**

SAGD Wells

IPA has recently completed the Steam Assisted Gravity Drainage (SAGD) Wells study for several sponsoring companies. The purpose of this study was to pool SAGD well cost and duration data from several operators in order to better define industry average SAGD well cost and duration benchmarks, and to identify learnings from completed SAGD wells programs. Phase 1 of the study was completed in April 2013 and a second phase is anticipated to explore the trade-off between capital cost and operating costs for these assets.

Dean Findley, Director, Subscription Services: **dfindley@ipaglobal.com**

Drivers of Capital Project Success in China

IPA has recently completed a new phase in the analysis of capital project performance in China. The analysis was based on data from over 150 capital projects executed since 2000 by 33 U.S. and European companies. The study evaluated capital project cost, schedule, safety, and operability performance based on scope-for-scope comparisons between projects in China and comparable projects on the U.S. Gulf Coast (USGC). A set of Best Practices and recommendations to improve performance in China were provided to all the participants in the study.

Pei Hsing Seow, Associate Project Analyst: **pseow@ipaglobal.com**

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

Global Equipment Procurement

IPA will commence its new Global Equipment Procurement study in summer 2013. This study will evaluate the total cost of procurement in various global regions and assess strategies being used by companies to maximize procurement effectiveness. The results of the study will help our clients devise more effective equipment sourcing strategies to better support ongoing capital project activities.

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

GOM Decommissioning

The purpose of the GOM Decommissioning study is to pool the learnings of decommissioning projects in the GOM from several operators and distill them into Best Practices, identify root causes of the poor outcomes, benchmark company performance against Industry as a whole, and guide later projects on cost and schedule planning. IPA has completed development of the workbooks used for the data collection and proceeded to collect data from the GOM participants, including both platform and well data. Additional data are pending. The sample of data received is being compiled into a relational database and will allow us to initiate preliminary cost and schedule analysis. The study remains open to additional participants.

Jonathan Jordan, Study Principal Investigator: **jjordan@ipaglobal.com**

Improving the Capital Efficiency of Shale Oil & Gas Developments

There is a clear and recognized need within industry to benchmark unconventional developments in order to foster improvement and identify Best Practices. IPA's Shale Oil & Gas study is underway and currently collecting data for the initial phase of the research—establishing industry outcomes. We have updated our subsurface data collection tools and created several new modules (water management and OPEX, for example) in order to capture the unique characteristics of shale plays. We have also streamlined the data collection process to minimize the work load for participating companies, in recognition of their time and resource constraints**.** The study remains open to additional participants.

Tom Mead, Deputy Manager, E&P Research Development: **tmead@ipaglobal.com**

Jason Walker, E&P Research Team Lead: **jwalker@ipaglobal.com**

Benchmarking Allocation of Sustaining Capital

This multi-client study will investigate the drivers and practices of sustaining capital allocation and expenditure in the Mining, Mineral, and Metals (MMM) sector. IPA is pleased to announce that four companies have joined this study, which will allow participants to compare their sustaining capital levels. This study will explore the planning and development methods typically used to determine sustaining capital requirements, identify the benchmark norms for sustaining capital spending at a site based on site characteristics, and determine the inherent asset-specific factors that have historically influenced sustaining capital spending. The study is now in the data collection phase, with each participating company nominating up to 10 operating sites (a mix of mines, mineral processing facilities, and smelters) to provide data. IPA plans to complete data collection by early July 2013, and then begin the analysis phase. The study remains open to additional participants.

Petros Kapoulitsas, Study Principal Investigator: **pkapoulitsas@ipaglobal.com**

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

Benchmarking Crude Tank Maintenance

Oil companies must continually clean, inspect, and repair their crude tanks. These are not revenue-generating efforts, and can be quite costly. At the request of several clients, IPA is scoping a Crude Tank Maintenance study to investigate the cost and schedule competitiveness of tank programs, identify the best metrics to use to gauge competitiveness, and understand organizational or project management practices that correlate with superior outcomes. The study is focused principally on crude tanks, although it may be expanded to include other types of tank as well. The study is in the early planning phase and is open to additional participants. We expect to issue a formal proposal by July 2013.

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

Carlos Flesch Appointed to Regional Director of IPA Latin America

Carlos Flesch has been appointed Regional Director of IPA Latin America. Carlos is responsible for continuing to strengthen IPA's relationships with clients in the region while developing and improving the effectiveness of their capital project systems. Since joining IPA in 2007, Carlos has held the roles of Project Analyst, Client Coordinator, Co-Manager of Mining, Minerals, and Metals; and most recently, Regional Operations Manager of Latin America.

Carlos graduated in 1998 with a degree in industrial electrical engineering, and the following year, he completed his post-graduate education with a specialization in industrial management. Carlos is certified as a Project Management Professional (PMP) from the Project Management Institute (PMI), and has presented in various PMI congresses in South America. Carlos has a large body of experience with project coordination and supervision of contractors in Brazil, United States, and Canada.

Upcoming IPA Events & Presentations for 2013

June 11

UIBC 2012 Roadshow in Houston, Texas

The UIBC 2012 Roadshow will be hosted by Shell in Houston, Texas. The UIBC Roadshow is open to all UIBC companies, and provides an opportunity to extend the UIBC metrics and research to company participants that were unable to attend the main UIBC 2012. For more information, contact ***Neeraj Nandurdikar*** at **nnandurdikar@ipaglobal.com**.

June 12 - 13

2013 Upstream Cost Engineering Committee (UCEC) in Houston, Texas

The UCEC, formally organized in 1999, is an approved subcommittee of the UIBC. The purpose of the UCEC is to improve upstream project and business results by providing metrics for better cost engineering. The UCEC metrics provide asset evaluation and concept development professionals with a better understanding of costs and schedules. The fifteenth annual UCEC meeting will be hosted by Shell in Houston, Texas. For more information, contact ***Carlton Karlik*** at ***ckarlik@ipaglobal.com***.

September 17 - 18

Cost Engineering Committee (CEC) 2013 in Tysons Corner, Virginia

The CEC, formally organized in 1998, is an approved subcommittee of the IBC. The CEC focuses on all aspects of cost (or investment) engineering, including cost estimating, scheduling, and project control practices and metrics, with the goal of expanding the capability of the owner cost engineer. The primary vehicles for accomplishing these objectives are metrics, research, and practice sharing. The event is structured as a working meeting in which active participation is expected; the reward for participants is greater insight into the metrics and Best Practices. For more information, contact ***Luke Wallace*** at ***lwallace@ipaglobal.com***.

October 14

IPA President to Present at AIPM National Conference 2013 in Perth, Australia

IPA's President and CEO, Ed Merrow, will give a keynote speech on Monday, October 14, 2013, at the Australian Institute of Project Management (AIPM) National Conference 2013. The conference will be held at the Perth Convention & Exhibition Centre from October 13 to October 16, 2013. For more information, please visit ***www.aipm2013.com.au/***.

October 23

IPA to Present at NWCCC Annual Meeting in Seattle, Washington

Katherine Marusin, IPA Project Analyst, will present at the Northwest Construction Consumer Council (NWCCC) Annual Meeting at the Tulalip Resort near Seattle, Washington. The NWCCC is a forum for public and private owners with capital construction programs to learn Best Practices in project delivery. For more information, please visit ***www.nwccc.org***.

November 18 - 20

UIBC 2013 in Leesburg, 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 interactive discussions. For more information, contact ***David Rosenberg*** at ***drosenberg@ipaglobal.com***.

2013 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

Public Courses

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

June 11 - 13: Calgary, Alberta, Canada
October 8 - 10: Bogotá, Colombia
October 9 - 11: Perth, Australia
October 22 - 24: Houston, Texas

Project Management Best Practices (22 PDUs)

June 18 - 20: Lima, Peru
August 13 - 15: Houston, Texas
September 24 - 26: Kuala Lumpur, Malaysia
October 29 - 31: Shanghai, China
July 23 - 25: Calgary, Canada
September 17 - 19: Abu Dhabi, UAE
October 8 - 10: Moscow, Russia
November 12 - 14: Johannesburg, South Africa

Best Practices for Small Projects (22 PDUs)

June 25 - 27: Kuala Lumpur, Malaysia
October 8 - 10: Orlando, Florida
November 12 - 14: Curitiba, Brazil
September 24 - 26: The Hague, The Netherlands
November 12 - 14: Sydney, Australia

Contracting in the Changing World of Projects (12 PDUs)

July 17 - 18: Santiago, Chile

Gatekeeping For Capital Project Governance (16 PDUs)

July 30 - 31: Johannesburg, South Africa
September 25 - 26: Houston, Texas
September 4 - 5: Gold Coast, Australia

Exploration and Production Project Best Practices (22 PDUs)

August 6 - 8: Rio de Janeiro, Brazil
September 9 - 11: Las Vegas, Nevada

Establishing Effective Capital Cost and Schedule Processes (16 PDUs)

August 27 - 28: Sao Paulo, Brazil

Best Practices for Mining Projects (16 PDUs)

September 25 - 26: Belo Horizonte, Brazil

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

December 11 - 12: The Hague, The Netherlands

An Exciting Time for IPA's Subscription Services

Dean Findley, Director, Subscription Services

In 2012, I moved into a new role at IPA as Director of Subscription Services. While the designated business area is new, we've been developing subscriptions to further IPA's overall mission for quite some time. Seven years ago, we created a quarterly publication to help our clients improve their cost estimates by providing more accurate capital project price escalation forecasts 5 years into the future for nine regions. With a strong foundation of subscribers, the ***EPC Market Forecast Newsletter*** continues to deliver on this promise.

Without the demand for the EPC Market Forecast, it's hard to imagine that the ***Business Professionals' Capital Projects Newsletter*** would exist. IPA research has consistently proven that the connection between business and capital project representatives is critical for improved financial returns. We launched this new publication, produced specifically for business representatives. After debuting last year, a solid and growing subscription base shows that we'll see this important connection continue to strengthen for many of our clients in the years to come.

I'm also happy to announce that we have just released the ***Western Canada Capital Projects Journal***, the first in a series of ***Capital Project Regional Publications***, to help organizations overcome the variety of challenges specific to particular regions of the world. The issues we tackle in these journals range from economic, regulatory, and social norms, to weather concerns and a lack of infrastructure, to simply a lack of local knowledge and experience. We're confident that our clients will find this localized content valuable, whether they've been executing capital projects in a particular region for years or they're brand new to the region. The link between regional context and capital project performance is an exciting and growing area of research, and in the future we look to address West Africa, Russia / CIS, and Southeast Asia from this point of view.

In short, thank you for your continued support! I'm always interested in hearing your feedback, so if you have any topic ideas that you'd like to see discussed in an upcoming publication, or if you'd just like to learn more, please feel free to contact me at ***dfindley@ipaglobal.com***.

Regards,

Dean Findley
Director, Subscription Services

www.ipaglobal.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.

www.IPAInstitute.com

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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