



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.

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Research Spotlight: *Incomplete FEL 2 - Destroyer of Capital*

Paul Barshop

Incomplete FEL 2 commonly destroys capital because of higher sunk costs, less efficient design and construction, and reduced plant performance. Here is one example. A month before the FEL 2 decision gate meeting, a project team determines it does not have sufficient time to finish all the engineering and planning deliverables normally completed at the FEL 2 gate. Progress was slower than expected because a business strategy change caused significant process engineering rework. The project sponsor and project team decide to prepare the FEL 2 cost estimate despite the incomplete basis because the upcoming decision gate meeting cannot be rescheduled. The project's approval for FEL 3 is on the agenda of the quarterly executive meeting, and waiting until the next meeting puts the needed production start date in jeopardy. The gatekeeper allows the project manager to present the cost estimate at the meeting because the team, although concerned about the potential disruption to FEL 3, believes the cost estimate will not change by more than a few percent when the uncertainties are resolved. The project is approved for FEL 3. During the next phase the capital estimate increases about 10 percent because additional scope is needed to achieve the planned production rates. At the higher cost, the expected return on investment is below the company's hurdle rate. The project team undergoes a series of cost reduction exercises but is unable to find an acceptable solution. The project is eventually cancelled.

Despite the negative consequences, only 4 in 10 projects completely finish FEL 2 before proceeding to the next project phase. The objective of this article is to explain why incomplete FEL 2 is so destructive, why the frequency of incomplete FEL 2 is so high, and what can be done about it.

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Gatekeeping for Capital Project Governance

Far too many capital projects do not achieve the desired business outcomes. These investments fail to meet their targeted returns by exceeding the expected cost and schedule targets, failing to operate as expected, or in the worst cases, being the wrong investment to meet the business need. In this time of scarce capital, it is important that only projects which best support the business strategy be funded. IPA research has identified a set of information that must be known at each gate to prevent unnecessary capital from being spent. This seminar provides a set of tools to aid in the complex and often difficult decision-making process. IPA research has shown that, effectively implemented and resourced, the gated process can improve cost performance by 10 percent or more.

The **Gatekeeping for Capital Project Governance** is a 1.5-day seminar. The materials presented are based on a decade of work with capital project organizations in establishing and analyzing activities in gated work processes. Furthermore, the seminar has been recently updated with data that reflect the current economic conditions and provide new practices to improve cost, schedule, and operability performance. Discussions around early business decisions are expanded. Participants can form implementation plans to translate materials and learnings into action items they can use to improve their capital project processes. This seminar is intended for representatives from owner companies who have responsibility for the decisions made at the end of each project stage. It is also intended for those moving into decision-making roles. Gated work processes provide an organized way to track tasks and activities, coordinate and synchronize multifunctional activities, and obtain buy-in across all levels and from all functions. Therefore, the program has value to other key decision makers in the capital process, including business managers, operations managers, project managers, project sponsors, and members of project steering teams. To view additional registration details and learn about special discounts, please visit our website at www.IPAInstitute.com, or call +1 (703) 729-8300.

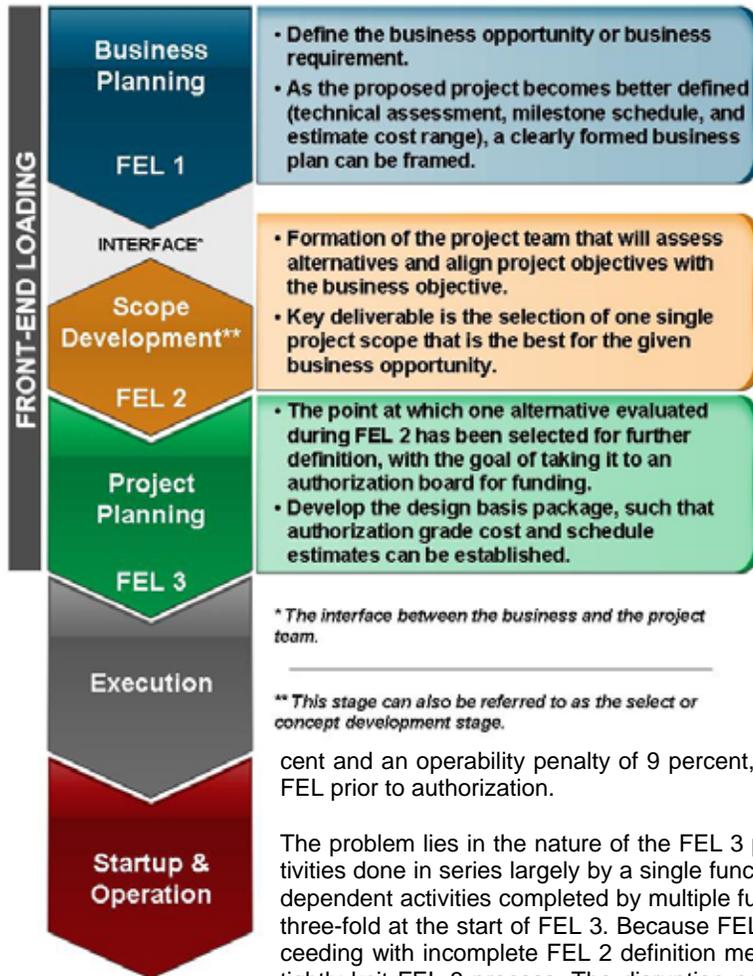
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WHY IS INCOMPLETE FEL 2 SO DESTRUCTIVE?

In most stage-gated processes, the FEL 2 gate is the business go/no-go decision point. In other words, projects that proceed to FEL 3 will get full-funds authorization unless the underlying business case falls apart because of market shifts. The business decision occurs here because a project will spend approximately 5 percent of its total budget completing FEL 3. Regularly cancelling projects at the end of FEL 3 is not an affordable proposition.

The Capital Project Cycle



Implicit in the FEL 2 gate decision is that the capital cost estimate will not grow substantially between the FEL 2 and FEL 3 gates and render the project uneconomic. Yet this is exactly what happens when the FEL 2 estimate is built on incomplete work. The average cost growth between FEL 2 and FEL 3 for projects with incomplete FEL 2 is 15 percent. In contrast, projects with complete FEL 2¹ exhibit no average cost growth. When FEL 2 is not complete, the team discovers as FEL 3 proceeds that additional processing equipment or more utilities and infrastructure are needed to achieve the project's production or product quality goals.

Projects with a significant capital cost increase may be cancelled outright because they are no longer economically viable or there is not enough money in the capital budget. Not only is the money spent in FEL 3 a sunk cost, but the company may have passed on other potentially profitable opportunities to develop. More commonly the project team is directed to reduce capital cost. However, FEL 3 cost reduction exercises have serious consequences. Projects with major changes during FEL 3 usually incur a cost competitiveness penalty of 10 to 15 percent and an operability penalty of 9 percent, even if the project reaches a *Best Practical* level of FEL prior to authorization.

*The interface between the business and the project team.

** This stage can also be referred to as the select or concept development stage.

The problem lies in the nature of the FEL 3 process. In FEL 3, work transforms from a set of activities done in series largely by a single function, process engineering, into a set of parallel, interdependent activities completed by multiple functions. Typically, the project team size will increase three-fold at the start of FEL 3. Because FEL 2 work is the starting point for the FEL 3 work, proceeding with incomplete FEL 2 definition means doing work out of sequence, which disrupts the tightly knit FEL 3 process. The disruption not only leads to higher costs because of rework and inefficiency, but also interferes with the design and planning optimization that typically occurs

during FEL 3. A project's cost effectiveness normally improves about 10 percent during FEL 3 because the team is able to identify ways to make the plant design more efficient or better ways to execute the project.

WHY IS THE FREQUENCY OF INCOMPLETE FEL 2 SO HIGH?

That 40 percent of projects do not complete FEL 2 is an astounding statistic, especially because it is a violation of the stage-gated work process of many companies. However, two factors conspire to allow companies to convince themselves that it is okay to make exceptions to the rule that FEL 2 must be complete.

First, projects have deadlines. The deadline may be a market window, a regulatory requirement, or a customer commitment. Even cost-driven commodity projects are subject to time pressure when the decision gate meeting occurs as part

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¹ Complete FEL 2 means that all of the scope of work necessary to achieve the business objectives has been identified, a condition only reached when a prescribed set of engineering and planning deliverables are finished with sufficient detail. For manufacturing facilities, this means that a written design basis has been prepared, the process flow diagrams (PFDs) have been based on complete and closed heat and material balances (H&MBs), a sized major equipment list has been developed, and the requirements for utilities and infrastructure have been assessed.

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of a regularly scheduled event like a board meeting. FEL 2 often takes longer than expected because much of it is a discovery process, especially early in the phase, rather than a set of tasks that proceed in a predictable fashion. When FEL 2 work takes longer than expected a company must decide to either finish the work or move forward with incomplete work. Deciding to move forward is made easier due to the fact that we systematically underestimate the effect of the incomplete work on the cost estimate. More than half of the projects with incomplete FEL 2 estimated that closing all remaining definitional gaps would change the capital cost by no more than a few percent. However, as discussed earlier, the average cost growth of these projects was 15 percent. Projects are too complex to foresee all of the ramifications from incomplete FEL 2.

Another, more rational, driver of incomplete FEL 2 is the need for flexibility. Flexibility means keeping project options open in anticipation of better market information during FEL 3. The capital investment decision often involves a high level of uncertainty. Many of the factors that drive profitability such as economic conditions, competitor behaviors, or consumer preferences can shift rapidly and unexpectedly. If new market information becomes available as the capital investment decision approaches, the project sponsor will naturally want to add or delete scope to better align with the current opportunity. The desire for flexibility, however, conflicts head-on with the inflexibility of the FEL 3 definition process. Ultimately the project sponsor's decision to keep options open or to make a late change is justified when the benefit of the change exceeds the penalty. However, because the effect of the incomplete FEL 2 is underestimated, the hurdles for moving forward with incomplete FEL 2 should be raised. A better alternative on projects truly exposed to dynamic market forces is to incorporate more flexibility into the design and execution plan. Adding this flexibility may be expensive, but it is less expensive than the inefficiency associated with keeping options open.

WHAT CAN BE DONE ABOUT IT?

To improve, most companies just need to employ the practices already incorporated into their stage-gated work process. The practices not only improve the quality of work, but also alleviate time pressure because FEL 2 will be completed faster. Below we highlight four of the most leveraging practices.

Clear Business Opportunity Statement at Start of FEL 2

To identify the best scope of work for a given business opportunity, it stands to reason that the task is easier if the business opportunity is clear. Indeed, FEL 2 is shortened by 17 percent when projects begin FEL 2 with a detailed business opportunity statement. Despite the influence of the business opportunity statement, less than 45 percent of projects actually start FEL 2 with a detailed business opportunity statement.

Companies need to apply more discipline to completing this deliverable. Projects that start life with an ill-defined business case create problems that cascade through the remaining project definition stages and execution. Further, companies will reduce the number of projects that enter the FEL 2 phase as the details required for a complete business opportunity statement will expose projects that are not viable early on.

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Announcing IPA's "New" News Room...

IPA has redesigned its News Room to provide an easily navigable space for current events at IPA. It includes the following sections:

- **Announcements:** IPA announcements of awards and conferences
- **Presentations:** Appearances of IPA staff at professional conferences
- **New Studies:** New research studies being launched for which we are recruiting participant companies. Please visit the News Room link for a prospectus.
- **Research Studies:** Summaries of research completed at IPA
- **Press Releases:** Available for the press and other interested parties

Visit the IPA News Room online at: www.ipaglobal.com/newsroom. Please contact **Loren Farrar** at lfarrar@ipaglobal.com if you have any questions.

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Structured Alternative Selection

Identifying the best scope of work is a complex task as there are many potential solutions for a given opportunity. A structured alternative selection process is a method employed to address the complexity. The premise is that a logical, thorough, and objective process will yield better solutions to a business opportunity. Importantly, alternative selection guards against the tendency to jump to a solution without thoroughly considering options. For example, a company identifies an opportunity to expand production of polyester film. Rather than immediately deciding that the best solution is to build a new plant, alternative selection forces the company to compare the new build scope versus options to debottleneck the existing capacity at various sites.

Companies should recognize that alternative selection can extend the FEL 2 phase because the team is more likely to discover information that causes the original business objectives to be re-evaluated. For example, a project team may find that existing power capacity was not as constrained as previously thought. Based on this new information, the business may want to add additional capacity. The business must deliberate on this new information and, if they decide to increase capacity, there is more work to be done. In this example, the iteration was worthwhile because it may result in a better business result. Further, the schedule effect of alternative selection can be reduced substantially by starting with a detailed business opportunity statement, involving technical experts when alternatives are being framed up, limiting the number of alternatives evaluated to three or less, and installing an interim gate to complete the alternative selection activity prior to the final FEL 2 decision gate. An “FEL 2a” gate (depicted in Figure 1) forces the alternative selection process to come to a close before the team prepares a full set of engineering deliverables on each alternative. An interim gate provides the additional benefit of preventing projects that are not ready to be pushed through the final FEL 2 gate.



Figure 1. FEL 2A Gate Included In the Alternative Selection Process

Use of Classes of Facility Quality Practice

The problem of scope selection is well described by the Rolling Stones lyric, “You can’t always get what you want.” For projects, this means that the desired plant capability often costs more money than is available or economically justified. Consequently, the project sponsor must make trade-offs between plant capability, operating cost, capital cost, and schedule. The Rolling Stones verse concludes with the line, “And if you try sometime you find, you get what you need.” The tool to help the project sponsor get what it needs is the industry practice known as Classes of Facility Quality (CFQ). CFQ causes the project sponsor and project team to discuss preferred trade-offs for cost-leveraging design parameters such as expected facility life, reliability, expandability, and operating flexibility. Projects that employed CFQ were 20 percent more likely to complete FEL 2 before starting FEL 3 because scope selection was easier.

Project Team Continuity

FEL 2 project teams consist mainly of a business representative, project manager, and operations representative as well as resources from process engineering and project engineering. Because the team is fairly concentrated, the effect of turnover in one of these lead positions is very significant. As shown in Figure 2, a turnover in a key member position adds, on average, a full 30 percent to the FEL 2 duration. Clearly, when a key member of a small team is replaced, FEL 2 loses momentum.

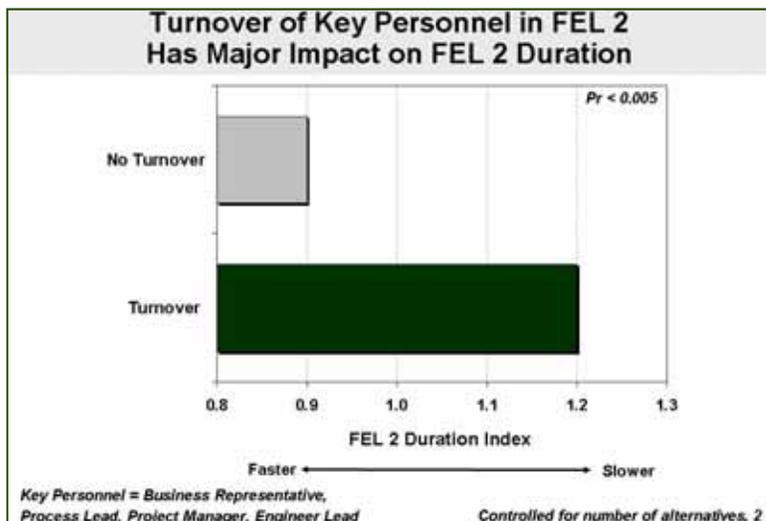


Figure 2. Turnover of Key Team Members and FEL 2 Duration

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CONCLUSION

Capital is wasted when FEL 2 decisions are made based on incomplete FEL 2. The potential for capital effectiveness improvement should compel companies to pay more attention to the FEL 2 gate. The solution is straightforward. Projects that have not completed the work have to be stopped until the work is done. Although it will be painful for the first few projects that are not allowed to proceed, all participants will quickly recognize that a strong FEL 2 gate not only results in more rational capital investment decisions but actually makes the whole process easier.



Professional Profile: *Paul Barshop, Chief Operating Officer*

Paul Barshop joined IPA in 1992 and currently serves as IPA's Chief Operating Officer. Before becoming COO in 2004, he was the Director of IPA's Netherlands Office, interacting primarily with European and Middle Eastern clients. In his early years at IPA, he served as Quality Manager and Project Analyst.

As a project analyst, Paul focused on evaluating downstream process projects, especially in the petroleum and chemical areas. He led numerous benchmarking efforts and conducted over 100 individual analyses of capital projects. He also led research to understand the performance and drivers of control system projects. His latest research efforts include the best practical definition at the end of FEL 2, alternative selection during FEL 2, and gatekeeping effectiveness.

In 2008, Paul served a one-year term as a member of the Committee on Review of National Institute for Occupational Safety and Health (NIOSH) Construction Research Program. Paul holds a Masters Degree in Business and a Bachelors Degree in Chemical Engineering. He has authored numerous articles and presentations.

China Study II Highlights

Christina Yip, Ph.D., Kang Jian, Ph.D., Allison Aschman, Ph.D., & Natalia Zwart

China is an economic superpower with the world's second largest economy (based on GDP Purchasing Power Parity) in the world. Rapid growth in recent years has resulted in demand outpacing the supply of goods and services. A large population of potential consumers makes the market even more attractive and leads to an influx of foreign direct investment (FDI). In fact, China is the world's leading recipient of FDI. The level of FDI is fueled by attractive business opportunities in China, both in terms of the domestic market size and as a cheap manufacturing base even in the current tough economic times. Many Western companies have established presence in China to take advantage of these opportunities.



However, practices necessary for Western companies to execute the most cost and schedule efficient projects in China are not well understood. What defines a successful capital project in China from the perspective of Western companies? What are the key success factors for executing projects in this region? How much cost savings can a Western company realize? What are realistic schedule targets in China?

Independent Project Analysis, Inc. (IPA) conducted a detailed quantitative study in order to address these and other issues associated with building facilities in China and to discuss the realities of doing business in China. The study relied on data from over 120 capital projects executed by 23 American and European companies in China. The data represented over \$7 billion in capital project work done in China between 1998 and 2009. The data included projects that were executed as part of joint venture (JV) agreements with mostly Chinese partners or as part of wholly owned foreign enterprises. The data include all project types and various project sizes.

Project performance was evaluated based on scope-for-scope comparisons between projects in China and their "twins" on the USGC. This "twinning" approach allowed us to compare project cost performance for projects with similar scopes executed in both regions. Schedule, safety, and operational performance were also compared for projects from China and the West.

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*(Continued from page 5)***Key Findings**

-  **Use of industry Best Practices delivers better results in China**
IPA found that even though China continues to offer potential for significant cost savings, they are not guaranteed by simply moving a facility to China. IPA has found that project performance varies across projects. Project performance in China is improved by the use of Best Practices, including good project definition practices, use of integrated teams, and good alignment with business.
-  **Increased reliance on local content improves performance**
IPA's study provides quantitative assessment of cost savings available in China through use of local content, the most effective methods for using these resources, and how specific project characteristics influence the use and effectiveness of local versus expatriate resources.
-  **Protecting intellectual property (IP) adds additional cost to projects**
Special measures to protect IP were required for about two-thirds of the recent study projects executed by western owners in China. IPA's research provides a quantitative measure of the higher cost and longer execution schedules incurred by China projects using IP protection measures.
-  **Business role is critical for project success**
Business plays a tremendous role in project success in China. Unfortunately, many business professionals are not aware of their critical role in fashioning an excellent project system. Prudent business practices are even more important in China as project teams face greater risks and challenges.

Planning for Success in China

Based on IPA's analysis results, we have also determined key practices that specifically improve effectiveness of China capital projects and lead to better business performance. The study provides a quantitative analysis of key success drivers such as leveraging partner influence, appropriate market forecasting, working with Chinese contractors, and effective onshore procurement.

China Study Participation

For additional information regarding the China Study II and to learn how your company can participate in IPA's ongoing research on projects executed in China, please contact:

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Author: Christina Yip, Ph.D.

Since joining IPA in 2004, Christina has led numerous benchmarking studies, individual project evaluations, and training workshops around the world for a wide range of industries and clients. She has evaluated over 100 projects ranging from US\$0.5 million to over US\$10 billion in size. Christina has led an industry-wide study on the performance of projects executed by western owner-companies in China. In addition, she has coordinated the IPA's project management forum in China since 2007 for over 20 owner companies (including both national Chinese and non-Chinese companies) with active capital investment interest in China. Christina's areas of expertise include project practices used in projects executed by wholly Western-owned companies, joint venture companies and local Chinese-owned companies in China. Christina obtained from the University of Melbourne in Australia a Ph.D. in Chemical Engineering (Mineral Processing), a B.E. (Hons) in Chemical Engineering, and a B.A. in Chinese and China Study.

Contributor: Allison Aschman, Ph.D.

Allison joined IPA in 2000, and is currently the Managing Director of IPA's Singapore Office. Before her current role, Allison was the Business Manager for IPA's Chemicals, Life Sciences, and Nutrition business unit. Allison's areas of expertise include project definition work processes and Project Benchmarking, best practices for downstream projects, detailed work process evaluation, and customized workshops for processing industry capital work process best practices. Allison obtained a Ph.D. in Analytical Chemistry from Duke University in North Carolina and a B.S. in Chemistry from Bloomsburg University of Pennsylvania in Pennsylvania.

Contributor: Natalia Zwart

Natalia manages IPA's Chemicals, Life Sciences, and Nutrition business area. Since joining IPA in 2001, Natalia has evaluated a number of projects executed in China and in 2005 led IPA's multi-company research study on process industry project performance in China and *Best Practices* for successful project development and implementation in the region. Natalia holds a B.A. degree in Economics from Hampshire College and an M.A. in Applied Economics from the Johns Hopkins University.



Major Components of Process Facility Costs

Andrew Ratliff and Robert Brown

IPA's Historical Escalation Trends are curves for a number of equipment and bulk materials scopes as well as world open market engineering and local construction labor. These trends are developed using client-provided data collected during project interviews and cost data surveys, in conjunction with data from different statistical groups around the world such as EuroStat and the U.S. Bureau of Labor Statistics (BLS). These historical trends are an integral part of our Cost Normalization process. The historical escalation trends are provided in this newsletter so that our clients may use the historical information to help determine future escalation factors for developing estimates as well as in choosing an execution site from a portfolio of possible locations. The historical trends are made available because we recognize that you cannot determine where to go without knowing where you have been. As more data are collected, these indices are revisited so that the most up-to-date and accurate cost normalization can take place.

The costs and price trends associated with a capital project are aggregated from a series of major cost categories: engineering services, bulk materials, major equipment, and construction labor and field services. We present the major cost categories for a capital project in Figures 1-4 and present the aggregated process plants escalation index in Figure 5.

Engineering Services

IPA measures engineering escalation (Figure 1) based on changes in the "all-in" wage rate. This rate includes the engineer's compensation, overhead, fringe benefits, bonuses, profit, etc. It is the average hourly price charged by the engineering contractor(s) along with any detailed engineering services provided by the owner. During project team interviews the average engineering wage is discussed and consistently collected. For example, the engineering rate is converted to a common currency (U.S. dollars) in order to make comparisons across projects.

As discussed in the previous issue of the IPA Newsletter, engineering prices increased at a rate of about 5 percent from 2001 through 2006, with greater instability in 2007 and 2008. Engineering prices now appear to be leveling off and allowing for more stable pricing.

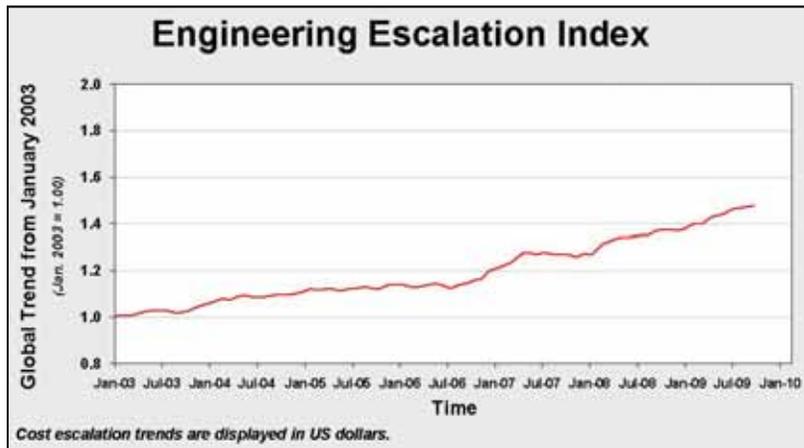


Figure 1. Engineering Escalation Index

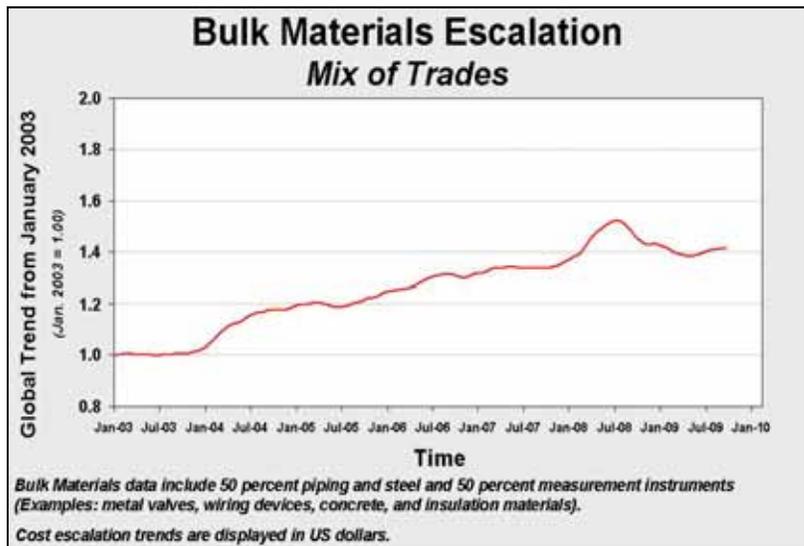


Figure 2. Bulk Materials Escalation

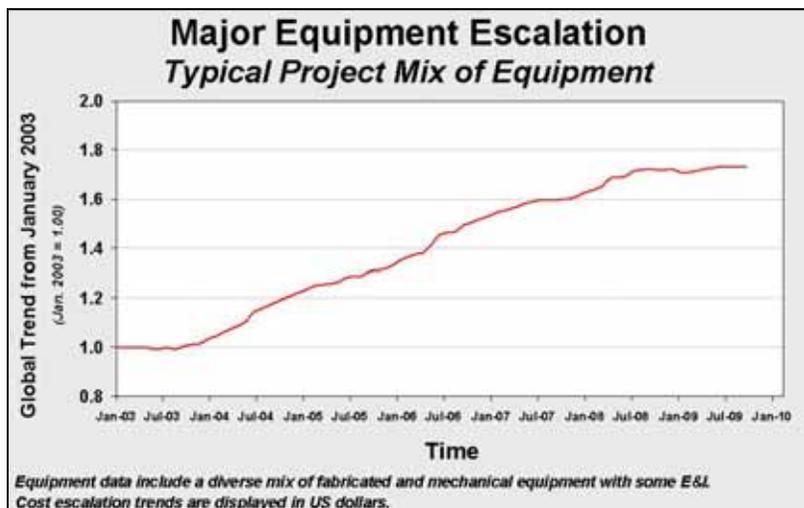


Figure 3. Major Equipment Escalation

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Bulk Materials

The bulk materials graph (Figure 2) depicts the escalation of a typical mix of bulk materials for a process plant. For example this would include piping, steel, measurement instruments, metal valves, wiring devices, concrete, and insulation materials. The prices for most bulk materials are continuing to stabilize and recover from the declines that we saw from 2007 and 2008.

Major Equipment

The major equipment index (Figure 3) is a composite of mechanical, fabricated, and electrical and instrumentation equipment. The major equipment escalation index for a diverse mix of fabricated and mechanical equipment remains high, likely due to the price of major fabricated equipment prices continuing to stay high. Overall, the trend is remaining relatively stable.

Construction Labor

Figure 4 shows the labor escalation comparison for nine different regions. Very little change has occurred since the previous newsletter, with wages continuing to flatten out.

Summary

Figure 5 shows the historical composite trends for a typical refinery project, onshore gas plant, and an electrical distribution project. It appears that the global economy is beginning to recover.

As part of our Estimating, Planning, and Control products, IPA offers the *EPC Market Forecast Newsletter*, which is available to existing IPA clients on an annual subscription basis. The newsletter uses our historical escalation trends to predict future escalation. Specifically the *EPC Market Forecast Newsletter* forecasts capital project price trends five years into the future for nine regions of the world. In addition to providing forecasted engineering, procurement, and construction escalation trends for several global regions, the *EPC Market Forecast Newsletter* provides detailed explanations and discussions on the capital project market, IPA's methodology for forecasting, and other topics about today's economic activity.

For more information regarding the *EPC Market Forecast Newsletter*, please contact **Dean Findley**, Director, Product Development Group at dfindley@ipaglobal.com or **Robert Brown**, Manager, Cost Engineering and Cost Services at rbrown@ipaglobal.com.

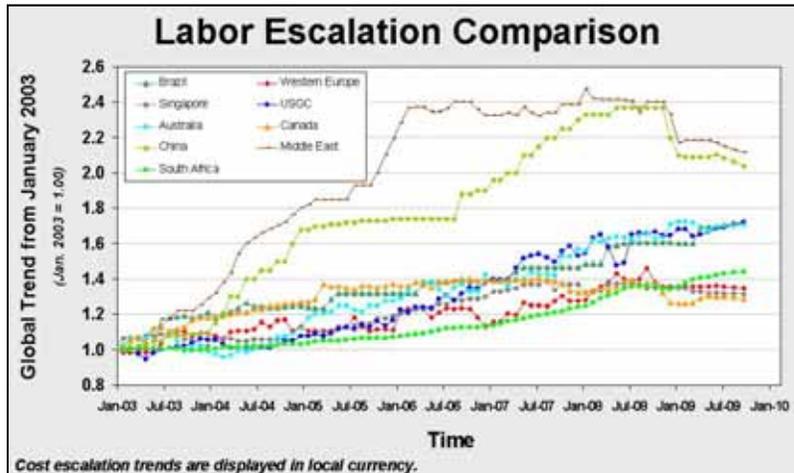


Figure 4. Labor Escalation Comparison

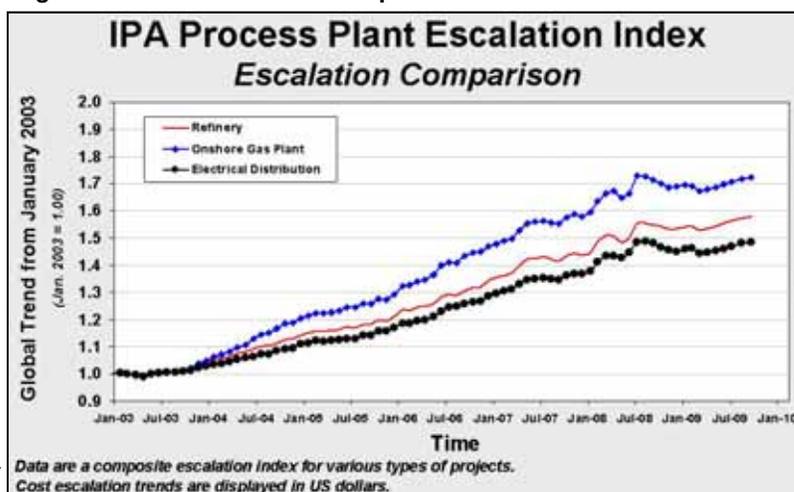


Figure 5. IPA Process Plant Escalation Index

Author: Andrew Ratliff

Andrew Ratliff has been a Research Analyst within IPA's Product Development Group since 2007. He is currently a member of IPA's Cost Engineering Group, leading the group's cost analysis of equipment and bulk materials. In addition, Andrew has developed tools for cost analysis of projects within the petrochemical and specialty chemicals industries. Previously, Andy worked at PBS&J, an environmental consulting firm, as a Senior Scientist. Andrew has a B.S. in Integrated Science and Technology from James Madison University.

Contributor: Robert Brown

Robert Brown manages IPA's cost engineering group and is responsible for IPA's Cost Engineering Committee. He has been at IPA for over 8 years and worked as a project analyst for 6 years. He has analyzed and benchmarked hundreds of projects for the process industries. Prior to joining IPA, Robert worked at the Pacific Northwest National Laboratories focusing on integrated assessment for energy policy and global change. Robert has a M.S. from Duke University and an A.B. from Davidson College.



The Industry Benchmarking Consortium (IBC) is a premier training opportunity in capital stewardship for both business and project professionals. As in previous years, IPA will present metrics of the participating companies as well as findings of research studies performed by IPA.

DETAILS: The 20th annual meeting of the IBC 2010 is scheduled to take place from **March 22 to March 25, 2010**, at the Hilton Washington Dulles Airport in Herndon, Virginia.

The IBC provides ample **networking opportunities** during breakfast, lunch, and breaks, in addition to evening receptions on Monday and Wednesday at the Hilton Washington Dulles Airport. Dinner Tuesday evening will be held at the nearby **Udvar-Hazy National Air and Space Museum** at Dulles Airport.

AGENDA:

Monday

- The IBC begins on Monday with a Metrics and Statistics Primer session, followed by highlighted research presentations from previous IBCs. Concurrently, roundtable sessions will be held to provide the opportunity for small groups of company representatives to discuss a topic of interest with facilitation by IPA.

Tuesday & Wednesday

- The centerpiece of each IBC is the sharing of outcomes and practices of the participating project systems. Two metrics sessions will be held on Tuesday, March 23, as part of this focus. The first will be a plenary session that will highlight overall industry trends and overall company metrics; the second will be broken into smaller groups by industry sector to discuss trends and practices for each sector.
- Major research studies to be presented include the following:
 - **Construction management**
 - **Construction readiness** – *measuring a project's readiness to begin field work*
 - **Procurement** – *effect on project outcomes, market trends*
 - **Information management** – *an examination of the tools used on projects, and their effect on outcomes*
- IPA research will be complemented by presentations from member companies on relevant topics.

Thursday

- The objective of this portion of the conference is to share performance results and practices that are specifically applicable to small projects (those costing less than US\$10 million) and turnarounds. A key focus for IBC 2010 will be how to deliver successful site-based projects and turnarounds.
- Site-based systems metrics and turnaround trends will be presented in addition to the following research studies:
 - **Engineering productivity** – *practices that contribute to more efficient engineering and reduced slip*
 - **Successful projects** – *an examination of the percent of successful projects by site and the factors that contribute to success*
 - **Integrating small capital projects and turnarounds** – *a study for both projects and turnaround personnel on how to achieve effective integration*



On Wednesday and Thursday mornings, the IPA Institute will conduct an overview of the Institute's project management courses, which will be free to attendees.



For more information about the research topics and conference content, contact **Phyllis Kulkarni** by e-mail at pkulkarni@ipaglobal.com or by phone at **+1 (703) 726-5472**. For logistical information, contact **Ellie Reynolds** by e-mail at ereynolds@ipaglobal.com or by phone at **+1 (703) 726-5471**.



The Season of Giving...

IPA North America

- IPA Ashburn's Community Service Committee has had a busy year with lots of charitable events. January's coat drive kicked off the year and over 100 coats were collected for Good Sheppard Alliance, a non-profit organization benefiting the homeless and those in need. A clothing drive was held in the spring to again benefit Good Sheppard Alliance.
- February was Blood Drive Awareness Month, and the staff were notified of local blood drive locations where they could give blood.
- Bake sales are always a favorite way to raise funds for charity, so a bake sale was held during IPA's Benefit & Vendor Fair that earned \$200 for Friends of Homeless Animals, a local non-profit, no-kill shelter dedicated to saving abandoned and abused animals.
- The annual holiday food drive, led by Kelly Mitchell, was a success and a car-load full of canned food items and \$100 in grocery store gift cards were delivered to the Loudoun County Community Holiday Coalition. The Coalition helps to serve less fortunate families by providing much-need items.
- Others have been helped this year by receiving home-delivered meals by IPA volunteers. Each Thursday 2-3 IPA volunteers pick up meals and deliver them to home-bound citizens in a retirement community.
- In November IPA donated \$54,000 to 71 local charities through the IPA Designate a Charity Program. In this program each employee in the Ashburn office is asked to designate one charity in the greater Washington area.
- December brings the annual Toys for Tots competition. Teams are created to compete to see which team will bring in the most toys for the Marine Corps holiday fundraiser. This year's competition will take place from November 30 through December 11.



IPA Netherlands & IPA United Kingdom

- In November the Netherlands and UK offices jointly organized an auction for charity. The auction items were 'bought' with points saved via several programs (hotel nights, airtickets, etc.). The money raised was split equally between the Bulgarian foundation and the 'Give a Child a Chance' program. The children had their own auction (with toys). Agnes van Uchelen, founder of the Bulgarian foundation, attended the event. The auction was a success and raised approximately €1725 for the charities! IPA is hoping to hold an auction again in 2010!
- In addition to the money from the auction, IPA was able to raise a total of €2980 (contributions from the spring and fall) with the help from IPA Management, which matched the offices' donations. The money was donated to the Bulgarian Children's Refuge Foundation 'faith, hope & charity' (www.kindertehuizenbulgarije.nl/engels.php). IPA's donation is used to renovate a boys home in Stara Zagorra, situated 240 km East of Sofia. This home houses 32 boys between the ages of 7-19 and is in very poor shape.
- IPA Netherlands is repeating its 'Giving Tree' program, which provides gifts for children in families suffering from financial hardships for a social health organization in The Hague. Every employee in the Netherlands office participates in the program.



Bulgarian Children's Refuge Foundation
'faith, hope & charity'



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January - June 2010 IPA Institute Schedule

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

Project Management Best Practices (22 Professional Development Units)

January 27 - 29: Bogotá, Colombia

March 2 - 4: Johannesburg, South Africa

April 13 - 15: Santiago, Chile

May 25 - 27: The Hague, The Netherlands

June 22 - 24: Chicago, Illinois

Contracting in the Changing World of Projects - A Seminar on Contracting Strategy

February 10 - 11: Houston, TX

A Course for Government Project Professionals - Practices for Projects On Budget and On Time

February 24 - 25: Arlington, VA

Project Management for National Companies

March 9 - 10: Beijing, China

Practices for Shorter, More Cost Effective Turnarounds

March 10 - 11: São Paulo, Brazil

Successful Megaprojects - A Seminar for Those Involved with Large and Complex Projects

April 6 - 8: Calgary, Canada

May 4 - 6: Perth, Australia

Gatekeeping for Capital Project Governance

April 14 - 15: Houston, TX

May 18 - 19: Arlington, VA

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

April 20 - 22: Bogotá, Colombia

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

April 27 - 29: Brisbane, Australia

Establishing Effective Capital Cost and Schedule Targets

May 3 - 4: Houston, TX

May 25 - 26: Santiago, Chile

Best Practices for Mining Projects

May 18 - 19: Belo Horizonte, Brazil

June 30 - July 1: Lima, Peru

Mitigating Risks of Innovation

June 1 - 2: Houston, TX



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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.



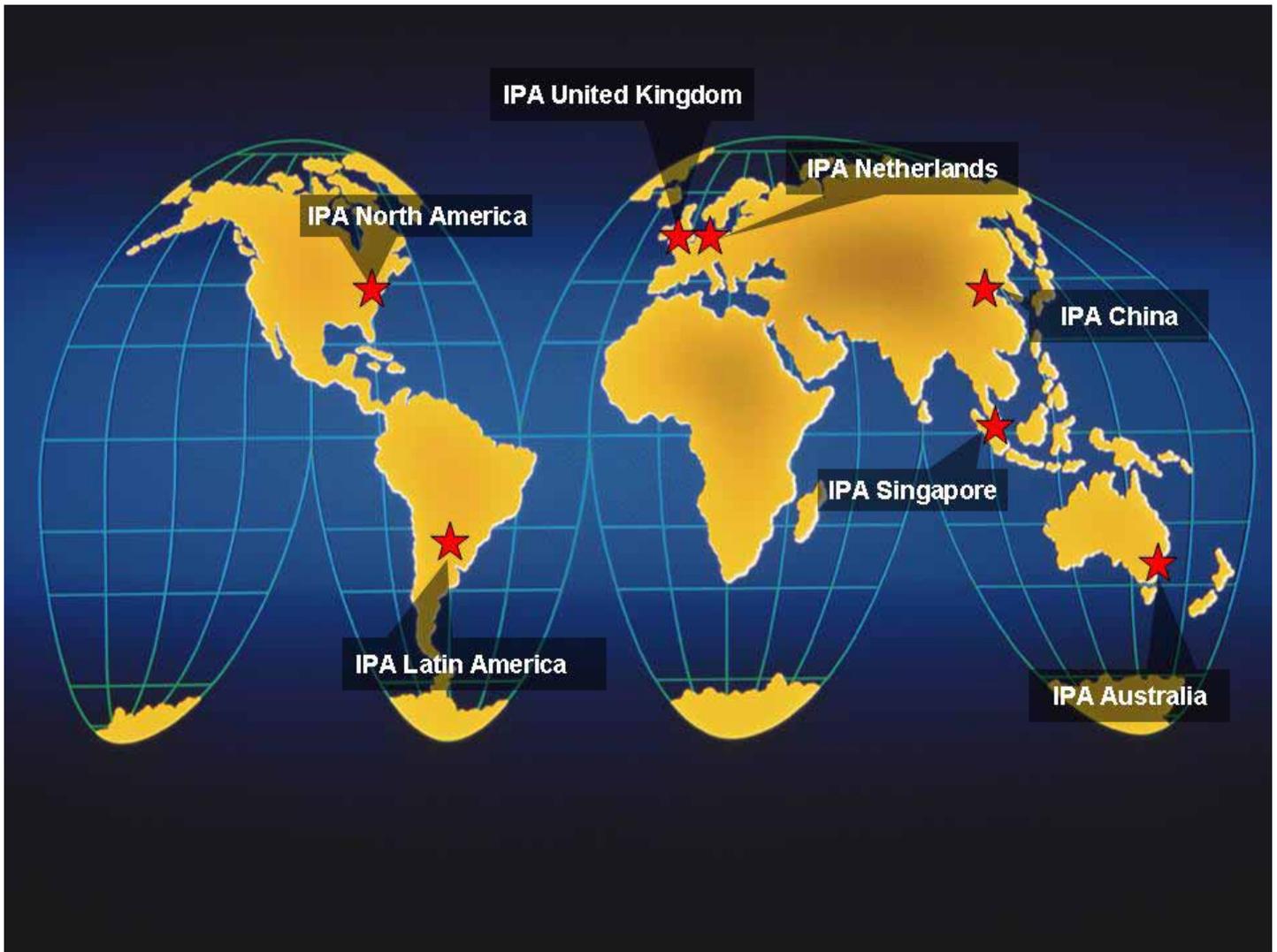
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The IPA Institute's mission is aligned with the overall IPA mission to improve the capital productivity of its clients. The programs offered provide a forum for in-depth understanding of key elements of the capital project process and how to apply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

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