Understanding Financial Exposure in the CapEx Portfolio

Recognizing the Potential Impact of Undisclosed Capital Project Risk on Future Free Cash-Flow

November 2008

Ensuring Full Risk Identification in a Black Swan World

The Black Swans (i.e., those risks that are considered outliers and ignored until they occur with devastating effect[1]) have come home to roost. Much of the financial meltdown is associated with exposures to investment risks that were unrecognized from a financial impact perspective.

Among the real tragedies of the current financial crisis is the realization that many of these losses could have been avoided had there been an unbiased and complete understanding of these risk exposures. In fact, it is becoming evident that blind spots arise from the use of overly complex and shortsighted models combined with internal decision processes based on "delusional optimism."[2] Clearly, decision-makers can and must do better.

In order to avoid similar disasters, CAPEX financial stakeholders must require a new approach to ensure they have a complete, unbiased and realistic understanding of the risk exposure associated with current and potential investments. Cost overruns and schedule delays in the CAPEX portfolio create potential undisclosed liabilities which can become highly significant.

> *Petro-Canada said yesterday its (Fort Hills) oil sands project will undergo startling budget revision as costs have soared from $14.1 billion to $23.8 billion (up 69%) in slightly more than a year… "I agree it is almost unfathomable," William Roach, UTS' (a partner in the project) chief executive said. Shares of all three partners were hit yesterday ... The global credit crunch means even Canada's oil sands projects will face difficulties accessing capital.*
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> Financial Post, September 2008

To put this cost overrun and its impact in perspective, consider that Petro-Canada's 2007 operating cash-flow was $3.8 billion. So its share of the overrun alone ($5.8 billion) is considerably greater than its entire 2007 operating cash-flow.

Far from being unusual, Petro-Canada's experience is actually quite typical of oil sands and of major projects in general. Whether it is Shell's Sakhalin II project, Boston's Big Dig, or Finland's Olkiluoto 3 nuclear power plant, the lack of predictability has been much the same. These projects illustrate a related trend – in general, cost and schedule overruns continue to grow, often right through completion. And, this trend was clear long before the high escalation in project costs experienced since 2005.

Clearly a fresh approach to capital project risk is required.

A Better Way to Manage CAPEX Risk

Up to now, CAPEX decisions and strategies were, in most organizations, based on single point estimates with contingencies based on "bottom up" calculations. It was assumed that one could rely on good definition and risk transfer to contractors to ensure that a facility would be engineered and constructed so as to meet expectations with regard to cost, time to first production, and production capacity. CAPEX risk management generally consisted of setting stretch goals or expectations without a clear view of all the risks the project might face. History clearly indicates these practices have been insufficient.

Any successful process for identifying and assessing risk exposure must incorporate the following elements:

- Due diligence by experienced people with an independent, outside perspective to identify all risks to the project including the impact of potential "Black Swans."
- The ability to identify and quantify potential risk impact during the earliest development phase when risk mitigation and avoidance are most effective.
- A reliable, easily understood risk model that addresses the tails of the probability distribution and that is not anchored to project-level estimates and schedules.

Westney Risk Resolution™ applies these elements to ensure confidential identification of all major project risks in a format useful to management and financial stakeholders. Figure 1 illustrates how the process begins with an assessment of the Risk Exposure of each major project which is then rolled up into the CAPEX portfolio.

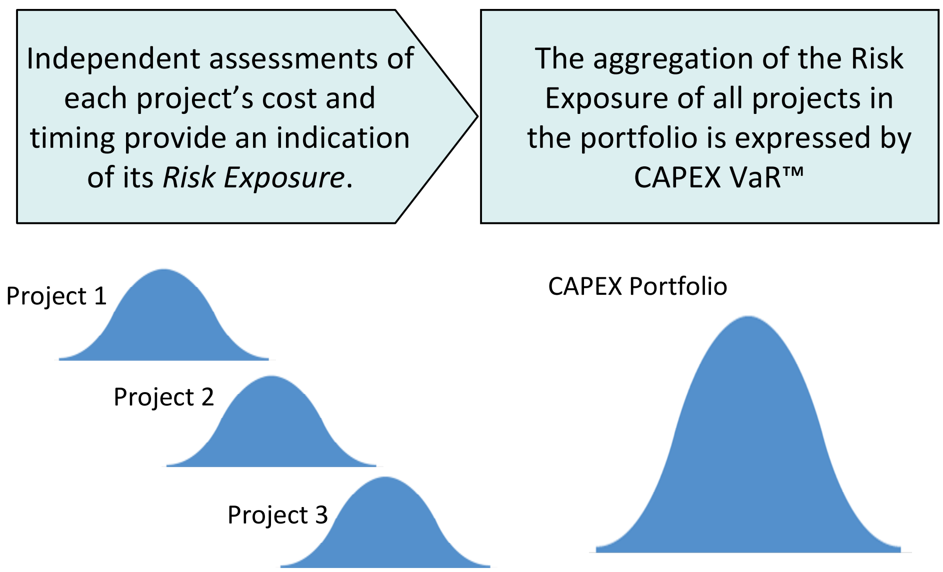

Figure 1: A project-level risk assessment process is required for understanding CAPEX risks.

Being an independent third party, Westney's consultants perform Risk Framing & Analysis as early as the Business Development Phase. Westney uses its proprietary Project Risk Indicative Modeling System (PRIMS™) to provide a preliminary range of Risk Exposure. In the Project Development Phase, rigorous assessments of cost and schedule risks provide ranges of Risk Exposure at critical decision points. The reports (which can be oral and informal) then guide strategic planning and help align the stakeholders to facilitate financial close.

With each project's Risk Exposure understood, it is useful to consider the overall level of risk in the CAPEX portfolio. Westney Risk Resolution™ provides a methodology that applies the risk exposure concept of Value at Risk (VaR)[3] to the CAPEX portfolio. We call this CAPEX VaR™. With this tool decision-makers can assess the potential increase in the level of investment required to complete the sanctioned projects in the CAPEX portfolio, at a given level of confidence.

As today's CAPEX portfolios are scrutinized – for off-ramps, exit strategies, and new opportunities to invest – the assessment and documentation of CAPEX VaR™ will help ensure that management and financial stakeholders fully understand the portfolio's overall risk exposure.

Summary

Financial and risk managers worldwide are today re-thinking every aspect of the way risks are assessed. It is clear that full understanding of all project risks requires independent due diligence; robust risk models that address the low probability, high impact "Black Swan" risks; and methodologies that are not anchored to optimistic estimates and assumptions.

More than ever, the risks and unpredictability of capital projects create a potential undisclosed liability against future free cashflow that must be recognized. Westney Risk Resolution™ provides decision-makers with full understanding of the Risk Exposure of major projects and the CAPEX VaR™ across the project portfolio.

About Westney Consulting Group, Inc.

Founded in 1978, Westney Consulting Group is internationally recognized for thought leadership in the risk management, strategic planning, and organizational effectiveness of large, complex engineering and construction projects. Based in Houston, Texas, the company advises owner/operator, developer, and financial executives in the energy, chemicals, mining & minerals industries.

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