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# THE ROUTE TO PROJECT SUCCESS

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## A PROJECT MANAGEMENT FRAMEWORK FOR MINING ENGINEERING CONSULTING & STUDIES

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**Client:** Tetra Tech WEI Inc.  
**Sector:** Mining & Minerals  
**Date:** 2012  
**Location:** Vancouver, Canada



- Features:**
- GOVERNANCE**
    - Standardized all project management report formats and production for complete mine project lifecycle, to NI 43-101 and PMBOK standard. One source of truth
  - PROCESS**
    - Standardized process, and reduced man-hours on reports
    - Streamline the process of report production, ensuring compliance to reporting standards
    - Report production synced to stage-gates in mine project development
  - PEOPLE**
    - All Project Managers working in the same way using the same tools, templates and lifecycle gates
  - TECHNOLOGY**
    - Ready source for onboarding of new Project Managers
    - Graphic depiction of the Project management lifecycles for mine development projects.

### Background

Johan Steenkamp was Program Manager of the CSG (Consulting Studies Group) Navigator Project for Tetra Tech WEI, the Canadian Mining Engineering subsidiary of American consulting group Tetra Tech Inc. Tetra Tech supports government and commercial clients by providing innovative solutions focused on water, environment, energy, infrastructure, and resource management. With 14,000 employees worldwide, Tetra Tech's capabilities span the entire project life cycle. In Canada, the staff base numbers about 3,000 people, with six WEI offices dedicated to Mining and Mineral Resources projects. WEI also had offices in Beijing, Perth, Trivandrum, India, and Swindon, in the UK. The company also formed part of the Global Mining

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Practice of Tetra Tech, involving offices in Brazil and Chile. Thus, the CSG Navigator Project was truly globally applicable and had to function across time lines and jurisdictions.

## The Challenge

Prior to being acquired by Tetra Tech in 2010, WEI's Consulting Studies Group consisted of Project Managers and support staff who managed projects in a variety of ways and standards, most through experience and with templates they created themselves. Policy and standard changes were communicated or applied in an ad-hoc fashion. Metals prices were generated randomly. The length, content and prices of reports varied greatly and sustainable, repeatable project delivery virtually impossible.

The company was at a relatively low level of maturity for project delivery, with basic documented process for project planning & reporting, and with little consolidated program/portfolio reporting

available. Management only getting involved on high visibility projects. However, Tetra Tech, being a company listed on NASDAQ, required a significantly greater level of governance and control.

The projects in this instance were the Frontend (study projects) production of reporting standard National Instrument (NI) 43-101-compliant reports.

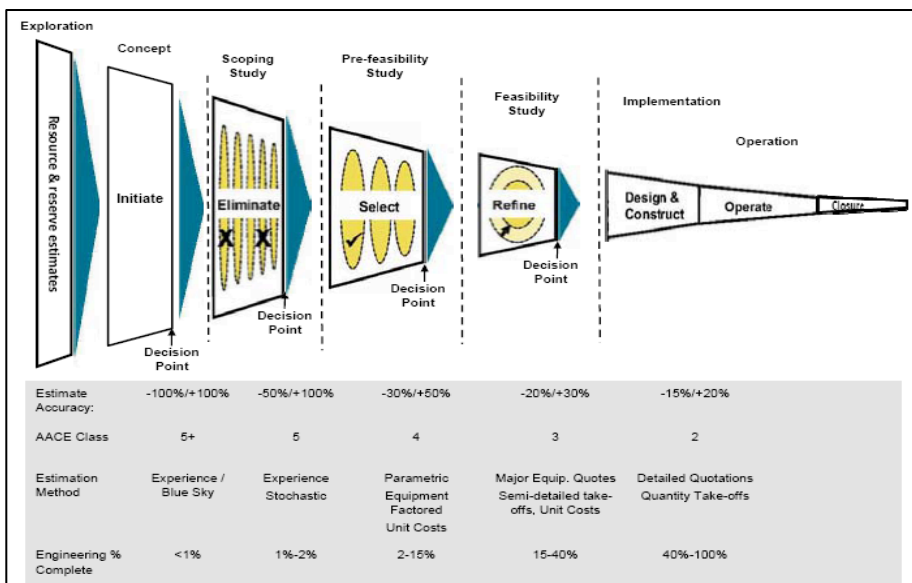
These included approximately over 300 such reports per year, namely:

- Single Discipline Studies (Exploration, Metallurgical, Geological, Rock Engineering or Mine Engineering reports)
- Due Diligence reports (DD)
- Preliminary Economic Assessments (PEA)

- Prefeasibility Studies (PFS)
- Feasibility Studies (FS)

Mine project owners use these reports to obtain financing to allow them to proceed with the construction of their mines. Each report, carrying a financial risk, is carefully audited by the BC Securities Commission and has to conform to highly exact standards for research, production, format, review, authorization, and level of accuracy.

The level of accuracy of the Engineering data in these reports is determined by the particular stage-gate of the mine development, from exploration to operation, which in turn determines the CAPEX for the project. (Ref. graphic below.)



This figure shows the stage-gates in the mine lifecycle, with indications of accuracy levels in studies.

**QUICK LINKS**

- Orgcharts
- NI 43-101
- Long-term Metal Prices
- Project Glossary
- Standards & Codes
- PM Checklist
- Signing Authorities
- Enhancement Requests
- Rate Tables
- Training
- Study Guidelines
- Data
- Safety

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## The Solution

As is clear, for such high-profile, risk-sensitive outcomes, the project management process had to be stringently controlled. Therefore, Navigator contains real-time examples of all the standards, processes and document templates a Project Manager would need (below):

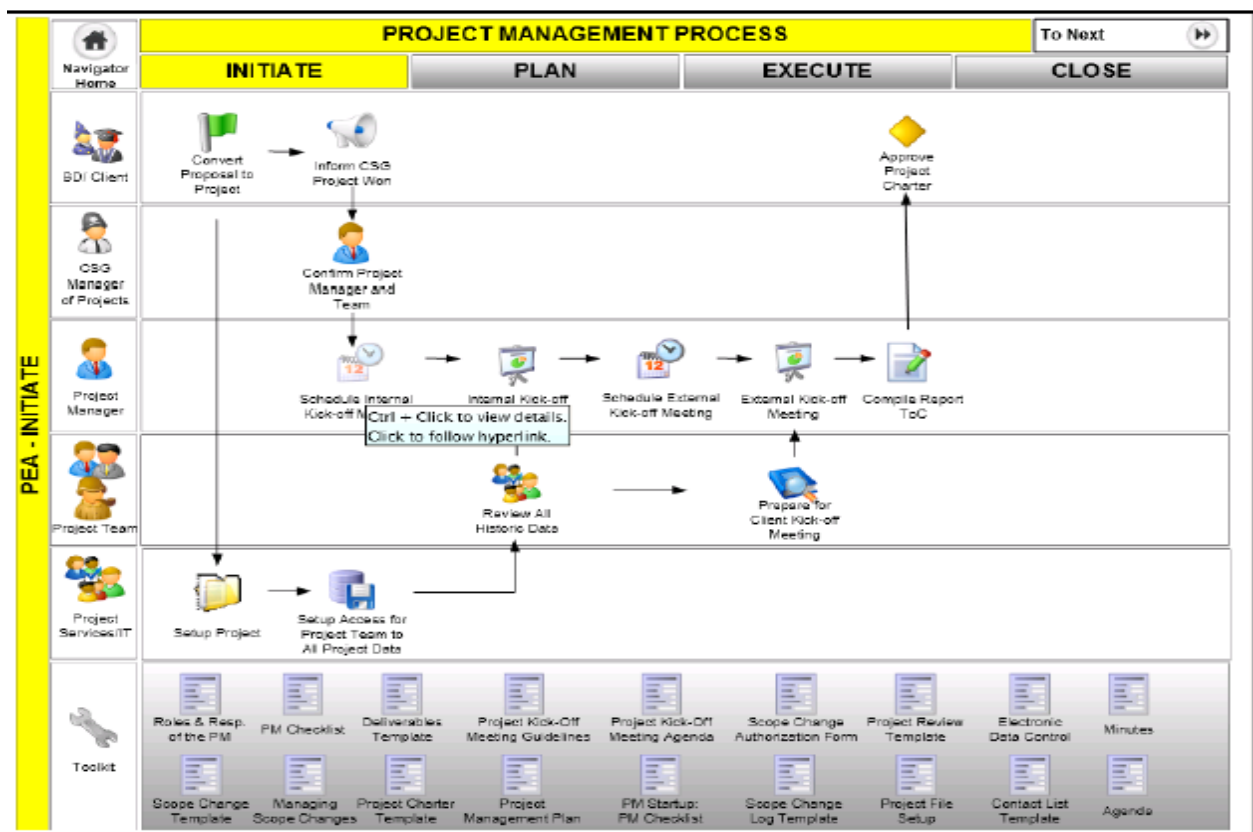
Navigator, developed on the SharePoint platform, is accessible by all affected

employees, and is a graphical depiction of the typical lifecycle of a mine project.

- ✓ It shows Project teams what to do, when to do it, who has to do it, which tools to use, what the outputs should look, etc. Particularly important are the standard costing spreadsheets, in particular costs for services and metals prices.
- ✓ Quality requirements (regarding length and

contents of reports, authorization, sign-offs, publication, and legal compliance, were built into the project management process for every type of report.

- ✓ The Work Breakdown Structure for each type of project is included in the documents provided, which means that the company can standardize its service offerings and costs.



The landing page in Navigator for the production of a PEA, showing, at the templates and plans needed to produce the report.

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**PROJECT MANAGEMENT PROCESS**

Process Steps

Title: Monitor and Control

Description: The PM ensures that the project is at all times managed within the schedule and budget. In the event of a deviation, scope changes must be approved by client before required effort is initiated.

The PM must monitor and control work packages delivered by engineering to ensuring they conform to the minimum credible scope and quality required. The engineering disciplines enforce governance, quality and process to ensure deliverables meet expectation with regards to quality, level of detail and packaging.

Required Documents

Reference Documents

- CO128 Guidelines for Project Managers to Ensure Payment of Accounts

In this screen in navigator, users can access the Process Step details – including how manage the account.

- ✓ Report production can now be systematically scaled up or down, without losing control or accuracy, for instance if a client decided to upgrade his report midway from PFS to FS, or required more and different single discipline studies.

In short, Johan tailored Navigator for the Mining Industry, specifically Front-End Mine Engineering Projects.

This intuitive, on-demand resource was implemented 100% in WEI’s Consulting Studies Group, and contributed significantly to the company’s position as a reputable and experienced provider of front end projects.

## Client comment

"Johan is a detailed-oriented project manager with a strong knowledge of project controls. He has demonstrated an ability to start, manage and complete large complex projects on time and on budget. And, he has also demonstrated an ability to turn around projects managed by others that need to be brought back on schedule or back on budget." - January 9, 2015 Brent Thompson, President, Mining & Minerals at Tetra Tech Inc.

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