Managing Complex Contractor Environments within Capital Projects

Providing speed to value with a Primavera, pre-built NEC3 ECC-aligned Contract Management solution accelerator.
Multibillion dollar megaprojects have become increasingly common with global planned capital expenditure to 2035 on such projects set at more than USD $40 trillion. Africa alone requires an investment of USD $93 billion annually to close its infrastructure deficit.

However, these megaprojects must overcome a number of challenges impacting project performance. There is also a growing skills and talent shortage and relentless pressure to control cost. This has seen many organisations transition to an engineering, procurement and construction (EPC) model, which brings its own challenges. Projects involve a greater number of stakeholders than a decade or two ago, adding to their risk profile and making stakeholder engagement critical early on and throughout the project. With a high number of business partners and interactions, governance of capital projects also becomes increasingly difficult.

Contract and contractor management processes play a pivotal role within capital project delivery in an EPC model. The contractor’s role is growing, making it more important for companies to build a robust in-house contractor management capability—one that is accessible and effective in managing contractor processes, spend and scope changes. After all, as much as the “execute” phase falls heavily on EPC contractors, success remains the owner’s responsibility. Unfortunately, project owners’ management systems are often inadequate to manage contractor processes. According to a report by the Aberdeen group, proper structuring, monitoring and enforcement of contracts can result in savings of up to 4.5 percent of the contract’s value.

Governments and shareholders are becoming more concerned and are putting pressure on public and private organisations to improve their capital project processes. The South African government, cognisant of the adverse impact of inadequate project management, has introduced an Infrastructure Development Management System (IDMS). In line with the IDMS, the public sector has subsequently started using standard contract suites, specifically NEC3, when engaging contractors for construction works in an effort to improve infrastructure delivery.

Of the standard contract suites, NEC3’s unique design, flexibility and use of plain language has secured it an enviable reputation in both public and private sectors throughout the world as a tool to help deliver projects on time and on budget. It is now endorsed by governments and industries worldwide.

Standardised use of this comprehensive suite of contracts can help deliver efficiencies and promote behaviour in line with the principles of Achieving Excellence in Construction.

In response, Accenture has developed a Contract Management Accelerator for Primavera (CMAP)—a pre-built selection of automated NEC3 Engineering Construction Contract (ECC)-aligned processes, templates and reports. CMAP is largely focussed on Capital Projects and designed to drive speed to value for customers, while reducing complexity and implementation risk.
Scale and complexity of capital projects are increasing through growing demand for infrastructure

Multi-billion dollar mega-projects have become increasingly common with investments predominantly driven by the need to:
- Provide infrastructure to cater to rapidly growing populations
- Address huge infrastructure deficits
- Replace and upgrade aging infrastructure
- Meet social development imperatives
- Meet the demand to conserve natural resources and supply utilities services
- Meet regulatory demands

Globally, planned capital expenditure on megaprojects up to 2035 is estimated to be in excess of USD $40 trillion.

Africa needs to close its infrastructure deficit

With its growing per capita GDP, Africa is largely perceived as the next major growth market. This makes it increasingly attractive for capital expenditure and projects. To close its infrastructure deficit, Africa requires investments of US$93 billion annually over the next 10 years.

Increasing investment by governments and parastatals show that the number, value and implementation speed of capital projects being deployed on the African continent is set to grow as never before. Governments around the African continent announced massive capital expenditures for upgrades in rail, road and port infrastructure; dams, irrigation systems and sanitation; energy generation, transmission and distribution; and social infrastructure in the form of hospitals, schools and universities, and regional infrastructure.

Infrastructure development will play a key role in the South African economy

The South African government has adopted an Infrastructure Plan intended to transform its economic landscape. The aim of the plan is to construct new infrastructure, expedite current projects, enable and support economic and social development, and improve the maintenance of existing infrastructure. During the 2015 Budget Speech the following public sector budget allocation was released which confirms the need and commitment on capital infrastructure development:

President Jacob Zuma says the country’s provinces and municipalities must do much more to implement the National Development Plan (NDP).
Rising challenges with scope changes, claims and the growing role of the contractor

Complex capital projects historically have had problematic results in best of conditions in terms of budget, deadline or performance deviations. An emphasis on improving capital project processes can help improve outcomes.

Research by the independent International Association for Contract & Commercial Management (IACCM) indicates that companies struggling to maintain stakeholder returns and profitability in harsh economic times could well be missing a trick. A massive boost to bottom line figures can well be achieved by focusing on an often neglected discipline: contract management.

Increasing skills and talent shortages and relentless pressure to control costs has seen many companies reduce the size of their operational workforce, transitioning to an engineering, procurement, construction (EPC) model for project delivery. Over time, this has made owner organisations increasingly dependent on contractors, while also putting them at the centre of multiple relationships, each with its own nuances. Projects involve a greater number of stakeholders than a decade or two ago, adding to the project's risk profile. It makes stakeholder engagement critical early on and throughout the project. Governance of capital projects also becomes increasingly difficult as the number of business partners and interactions increase.

Upstream projects face significant likelihood of scope changes, unforeseen events (e.g. geological surprises), claim submissions and disputes between contractor and operator on interpretation of contract terms. This is exacerbated by issues such as:

- Risks, scope deviations, changes and claims not being assessed and documented appropriately
- Issues being resolved in the field without following processes and /or documenting decisions
- Documentation not being easily accessible or available to support decision making
- Lack of formalised processes to govern and manage changes, claims and disputes
- Poor understanding of contract terms because of complex, legally orientated contract language

When there is a scope change, an empowered and proactive project manager should be able to judge the impact of the change on project economics and decide whether it should be claimed for or not. This can be challenging as changes can impact several parties and transcend multiple interfaces, often involving conflicts of interest.

Proactive actions, such as well-structured change order procedures and stage-gate processes, can prevent claims but will involve studying the main contractual documents and evaluating claims based on supporting information needed for decision making. Good claims management will help avoid unnecessary budget deviations. In the long lifecycle of a capital project, change orders are common. If not handled properly and in a timely manner, they may result in significant budget overruns. Poor communication procedures add to this, as misunderstandings often result in additional budget demands on the EPC company. Here, documentation takes on real significance: the PMO should be able to record, file and maintain a history of all documents, establishing an invaluable inventory to assist in the resolution of any future claims.
Another underlying issue can be the quality of the IT systems that support data capture, reporting and workflow. Inadequate information management undermines quality, increases costs and delays commissioning of new assets.

Collaborative relationships with contractors can reduce risks, with technology tools and continuous data exchange spurring greater efficiency. Unfortunately, the reality is that project owners’ management systems are often limited in their ability to manage contract processes. Companies need to build a more robust in-house contractor management capability. This will help ensure project economics are met.

Given the scale of spend on megaprojects and the likelihood of cost overruns, it is critical that managers responsible for managing spend have contract management mechanisms that are effective and accessible. To minimise contract amendments and variations and deal with them efficiently, managers need:

A robust business process for handling technical queries such as:
- Design change notices
- Site instructions
- Change orders
- Variation requests
- Variation orders
- Contract amendments
- Claims

To be able to efficiently manage all inter-party communications and instructions.

According to a report by the Aberdeen group, “proper structuring, monitoring and enforcement of contracts can result in savings of up to 4.5 percent on the contract’s value.”
Governments and shareholders are becoming more concerned and putting major pressure on public and private organisations to improve their capital project processes

Improving Capital Project Outcomes

Capital project failures impact the bottom line and shake stakeholder confidence. State Owned Enterprises (SOEs) management of capital projects have time and time again continued to fall short in meeting citizen’s expectations of on-time infrastructure, delayed by years and costing millions. Capital projects need to be run as high-stake businesses, with clear, targeted outcomes and metrics relevant to delivering high performance.

The South African government, cognisant of the adverse impact of capital project delays together with infrastructure delivery problems, introduced an Infrastructure Development Management System (IDMS) to effectively assist in the planning, delivery, procurement and maintenance of infrastructure works in the public sector. The public sector has subsequently used many standard forms of contract when engaging main contractors for construction works (e.g. NEC3) to improve infrastructure delivery.

South Africa’s Finance Minister Nhlanhla Nene in the 2015 budget speech echoed the importance of the IDMS programme.

Introducing NEC3

The first NEC contract – then known as the ‘New Engineering Contract’ – was published in 1993. It was a radical departure from existing building and engineering contracts.

NEC contracts have been uniquely designed to;

- Be clear, simple and written in plain English using language and a structure which is straightforward and easily understood
- Stimulate rather than frustrate good management
- Be used in a wide variety of commercial situations, types of work and in any location

Known today as the NEC3 suite it has built an enviable reputation for use by both public and private sectors throughout the world. It has been used on many high profile and successful projects over the last 20 years. They have delivered certainty for clients in terms of project outcome as well as ensured fair and prompt remuneration for contractors and suppliers. As news of these successes has spread, more and more project management teams are adopting NEC3 contracts as a result.

“NEC3 helped deliver the largest civil engineering project in Europe, on budget and with value for money. NEC3 helped the project hit 45 out of its 46 targets last year, narrowly missing only one.”

David Allen, Financial Director, Crossrail

The NEC3 suite is now also endorsed by governments and industry worldwide and has an unrivalled track record for delivering projects on time and on budget.

This includes the Hong Kong government, which has committed to use the NEC3 suite for all projects tendered from 2015. The decision follows the success of a series of successful NEC3 pilot projects in the region, including the HK$2 billion community hospital at Tin Shui Wai delivered under an Engineering and Construction Contract Option A.
It has also become public sector contracts of choice in the UK, being used for nearly all projects procured by national and local government bodies and agencies. NEC3 was praised in the recent UK Parliamentary ‘Construction Matters’ report, which calls for transparent and non-adversarial forms of contract to support integrated supply chains. The report states that NEC3 is ‘setting the benchmark’ in this area. In South Africa the government passed the Construction Industry Development Board (CIDB) act in 1994, which standardised procurement routes for all state entities to make them as straightforward as possible. This also meant that only four forms of contract could be used under the act, including NEC contracts. The South African Construction Industry Development Board currently recommends NEC3 contracts for public-sector use in South Africa.

No other contract has had such a transformative effect on the construction industry, putting the collaboration sharing of risk and reward at the heart of modern procurement. It has revolutionised the purchasing and delivery of works, services and supply over the last two decades and looks set to continue. Standardising use of this comprehensive suite of contracts should help to deliver efficiencies across and promote behaviours in line with the principles of *Achieving Excellence in Construction*.

A well-defined framework designed to meet these requirements should be put in place. Accenture’s Contract Management Accelerator for Primavera (CMAP) attempts to address this exactly.

How Accenture is addressing these industry challenges by accelerating efficiency within Capital Projects

Accenture has identified that in order to drive efficiency and improve capital project delivery outcomes, an effective and robust contract management capability is critical.

In response to these industry challenges and based on the increased adoption of NEC3 Contracts globally, Accenture has built a Contract Management Accelerator for Primavera (CMAP).

It is a pre-built selection of automated processes, templates and reports which help establish better contract guidance and control, particularly in the complex capital projects industry.

CMAP is based on the NEC3 Engineering Construction Contract (ECC) and accelerates speed to value for customers, while reducing complexity and implementation risk.
CMAP for NEC3
Contract Management Accelerator for Primavera, aligned to NEC3 ECC

**Contract Management Accelerator for Primavera (CMAP)**

- Based on Accenture and industry expertise and experience
- Selection of NEC3 ECC aligned processes, standard templates and reports
- Containing a flexible, highly configurable and expandable technology platform
- Resulting in a pre-built contract management solution accelerator
- Leveraging an industry leading Oracle Primavera Unifier Tool-set

**Functionality**

- Business Process Automation
- Alerts, Reporting, Analytics
- Scalability, Security and Segregation of duties
- Audibility, Traceability and Availability
- Document Management and Control

**CMAP**

- Integrates with AutoVue, ERP, and P6
- Web interface

**Requirements**

- Minimising effort and dispense with manual intensive processes
- Avoiding potential claims and Mitigating Legal risks
- Contract history, document and supply chain collaboration

**Capabilities**

- Clarity and Understanding of Contract terms
- Transparency and Proactive Informed decisions
- Standardisation, Governance, Compliance and Electronic Handover

**NEC3 Processes**

- Contract Approval and Termination Management
- Early Warnings, Risk, Insurance and Indemnity Management
- Claims / Compensation Definition, Assessment and Approvals
- Meeting Minutes, Quotation Assessments and Approvals
- Payment Assessments, Calculations and Approvals
- Delays, Notices, Instructions, Requests, Inspections

**Implementation**

- Speeds up implementations timelines
- Reduces implementation complexity and risk
- Increases quality of delivery through deep industry knowledge, leading practice infusion and advanced product skills

**Business Value**

- Accelerated speed to value through pre-built automated processes, standard templates and reports
- Fast-track adoption and capability maturity
- Agile adoption of client specific needs through flexible and scalable platform

**Foundation**

- Solid foundation of defined processes
- Based on leading practices and experiences
- Easily deployable Solution bundle
Transforming the way you manage contract processes leveraging Accenture's CMAP for NEC3

CMAP is a pre-built Contract Management Accelerator for Primavera. A selection of NEC3 ECC-aligned processes, standard templates and reports. These have been developed using Accenture’s industry expertise and experience. CMAP is supported by a flexible, highly configurable and expandable technology platform—the industry leading Oracle Primavera Unifier Toolset.

Jump-Start your project

Off-the-shelf contact management toolsets address generic processes and often take a generic approach to contract management. This can result in a lot of configuration and development to address client-specific requirements. Thus, if an organisation wanted to use the NEC3 ECC contract, an off-the-shelf solution may require a significant amount of analysis, design, building and testing to enable NEC3-aligned processes, templates and reports.

By leveraging Accenture’s CMAP, project teams are provided with essential implementation guidance and can unlock information needed to inform key decisions. CMAP speeds up implementation timelines and improves quality of delivery while reducing implementation complexity and risk. It also allows more emphasis to be placed on transitioning the solution into business, accelerating adoption and driving capability maturity through earlier user enablement, training and change management.

Enabling NEC3 ECC

NEC3 comprises of a family of contracts stretching over key areas such as ‘Works’, ‘Services’ and ‘Supply’.

Amongst these NEC3 contract forms, the NEC3 ECC (Engineering and Construction Contract) is primarily used in large complex construction projects, with particular focus towards the relationship between the owner and main contractor. CMAP was therefore built with particular focus towards enabling NEC3 ECC aligned processes and templates, in line with payment options A and B. The flexible nature of the solution does allow for quick adoption of other NEC contract forms (e.g. PSC – Professional Services Contract) and payment options.

It supports and enables the fundamental contract clauses through defined automated business processes. These NEC3 ECC aligned processes include:

- Contract approvals
- Early warnings
- Meetings and minutes
- Engineering and design reviews
- Risk, insurance and indemnity
- Risk management
- Defects management
- Possible compensation events
- Compensation management
- Quotations
- Disputes management
- Payment applications
- Contract terminations
- Payment certificates, Termination certificates
How CMAP helps with ‘contract language’ challenges

Large construction contracts consist of hundreds of clauses, terms and conditions. Even though NEC3 has specifically been written in plain language to improve better understanding and overcome some of the ‘legal contract language’, more often than not people still struggle to correctly interpret terms and conditions. Not understanding or know how to apply contract terms and conditions, leads to frequent disputes amongst contract parties. It creates inefficiencies through fragmented and disorganised processes requiring manual effort intensive intervention that is mostly unreliable.

Clearly defined NEC3 ECC aligned processes built into CMAP offer structured guidance while supporting the better understanding and interpretation of contract terms and conditions through automated workflows driving the logical flow of events. This supports contract compliance and minimises disputes and issues arising from misunderstanding or misinterpreting contract terms and conditions.

A solid foundation

Accenture’s CMAP has been developed on the standard Oracle Primavera Unifier platform. It re-uses out-of-the-box functionality, with no custom development, minimising defects and eliminating upgrade risks. Through this approach it enables a solid and reliable foundation. With a flexible and scalable platform, it enables adoption of client specific needs faster with less cost and risk.

Visibility, reporting and intelligence

The Oracle Primavera technology platform enables CMAP to leverage the advanced Primavera capabilities by having full Analytics reporting and dashboard solutions. Through Primavera Analytics, critical contract management KPI’s are focussed towards financial control, predictive forecasting, issue identification and change and compensation controls. This empowers operational and executive teams to appropriately manage contract scope, changes, cost and progress through early detection and root-cause analysis.

Built with a joint Accenture–Oracle team

Throughout the asset development lifecycle, Accenture collaborated closely with the Oracle product management team to ensure compliance with product design, and implementation of leading practices and principles.
Conclusion

Capital projects are increasing in scale and complexity. Pressure on organisations to improve their capital project delivery is mounting but most organisations are not appropriately enabled to manage complexity. Project owners, increasingly dependent on contractors to deliver, have poor contract management capabilities and systems.

Given the context, the importance of effective contract management assumes great criticality to drive efficiencies and successful project delivery.

Adopting a contract management solution leveraging Accenture's CMAP will enable better contract and contractor control, allow for collaboration, accurate documentation, process management, governance, compliance, decision support and contract transparency while adhering to NEC3-ECC - specific clauses and principles.
About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 336,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$30.0 billion for the fiscal year ended Aug. 31, 2014. Its home page is www.accenture.com.

To download:

www.accenture.com/za-en/delivering-capital-projects

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