



RESUME – MARK STARKOFF

SENIOR PROJECT MANAGER

PERSONAL DETAILS

NAME: Mark Andrew Starkoff
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Brisbane QLD Australia 4000
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NATIONALITY: Australian – Holding Current Australian Passport
OTHER INFORMATION: Non-smoker without disabilities or physical limitations

KEY ABILITIES

- Hands on approach to problem solving and management with proven record for project completion on schedule, within budget, and without OHSE incidents.
- High level of competency in strategic, analytical and tactical planning applicable to large scale projects, with the ability to think outside the immediate bounds of a problem to develop technical and managerial solutions for specific problems while considering holistic project objectives.
- Strong ability to identify and apply priority management focus to address project critical issues for timely action or correction to meet goals and objectives.
- Deep understanding of risk assignment and the requirements for the appropriate allocation of responsibility.
- Highly developed management and leadership skills with proven ability to make decisions to achieve critical objectives for cost and schedule achievement.
- Extensive communication skills with an ability to interact with all levels of corporate, management, and operations personnel, Workshop to Boardroom.
- Ability to form and focus teams on key objectives.
- Proven leadership and team-building skills including conflict-resolution abilities. Ability to keep a team focused on critical project objectives during periods of project challenge..
- Qualified experience in engineering and technical matters, hands on experience through all levels of technical and trade levels.



KEY EXPERIENCE CATEGORIES

The following key points of specific experience categories have been developed and refined in the following industries

- General Heavy Industrial
- Mining
- Minerals Processing
- Chemical
- Oil and Gas
- Coal Seam Gas (CSG)
- Solid experience in Mega Project development and management with Owners teams through Concept, Front End Loading (FEL), FEED, Implementation/Execution and Operational life cycle project phases.
- Extensive Management experience on Mega Projects at Senior Project and General Management levels.
- High exposure and management skill including active experience developing Safety and Environmental culture to meet best practice standards which includes hands on implementation competency with full integration into all project development and life cycle phases.
- Extensive experience in Modular, Pre-Assembly and Hybrid project delivery methodology. Including traditional Stick Build versus Modular, Pre-Assembly and Hybrid economic evaluation. Assessment and analysis of offshore facilities and progressive execution management of offshore resources.
- Economic and Costing development for project viability, execution methodology.
- Highly experienced in Project and Construction Management, Engineering Management, Critical Path Planning, Budget and estimate preparation coordination and control.
- Strong experience in commercial and contract platform strategy and development. extending to Contractor management and partnering in execution.
- Extensive experience in Tender and Contract Preparation, award. execution, and closeout for all areas of project execution, engineering, logistics, procurement, and construction/commissioning.
- Experience in specialist commercial model development such as BOO, BOOT and MARC style contracts. Experience in Alliance style Partnering development and execution including knowledge of the Client Team interface requirements.
- Long term exposure to the management and coordination of procurement process and the



associated logistics of mega projects and large scale operating environments. Including the management and overview of Supplier facilities and systems interface with capital projects.

- Engineering management experience in Fixed Processing Plants, Petrochemical Plants, Gas & Liquid transport systems in the Mining, Oil & Gas, and CSG sectors. Mobile Mining Fleet procurement and maintenance experience.
- Highly developed Strategic skills for Project early works requirements including Marine, General Infrastructure, Camps, Access Roads, Warehousing and Laydown.
- Hands on experience in trade method with application to construction, maintenance and general operational support in both project and operational environments.
- Proven experience and skill at development of core teams for project execution including developing teams for company development.

RECENT SUMMARY OF WORK HISTORY FOR MARK STARKOFF

Role	Dates of Service	Project
Managing Director	2000 to Current	Sigma Engineering
Senior Construction Project Manager	May 2010 to Current	APLNG Upstream Gathering
Senior Project Consultant	December 2009 to April 2010	BHP Billiton Yeelirrie Project
Senior Project Consultant – Modularization & Execution	December 2009 to May 2009 (Dec 2008 or May 2010??)	Xstrata Nickel - Koniambo Project KL
Senior Project Consultant – Modularization	October 2008 to January 2009	FAST – BHP Billiton RGP Perth
Senior Project Consultant – Modularization & Execution	February 2007 to August 2008	BHP Billiton Olympic Dam Expansion
Country Manager – Deputy Project Director	March 2006 to November 2006	Ivanhoe Mines Mongolia
Area Manager	October 2005 to March 2006	Inco Technical Services
Project Manager – Red Side	October 2004 to July 2005	Alcan G3
Engineering Consultant	February 2004 to October 2004	Anglo Coal
Project Manager – Mine Port Infrastructure	November 2001 to November 2003	Inco Goro Project



ACADEMIC QUALIFICATIONS

UNIVERSITY OF SOUTHERN QUEENSLAND

Masters Degree - Complex Project Management (Deans Award)

QUEENSLAND UNIVERSITY OF TECHNOLOGY (1992-1996)

Bachelor Mechanical Engineering (Hons)

Honours Subjects:- Thermodynamics, Stress Analysis [FEA], Fluids Transport,
Mechanical Vibration, Tribology.

TRADE-BASED TRAINING & CERTIFICATION

Trade Certificate No ASCO 4112 Classification Fitter

Certificate of Competency Welder: 1, 1-e, 2, 3, 3-e, 4 J00403 Qld

Metal Machining I TEG166

Mathematics IA TGN152

Mathematics IB TGN153

Basic Fluid Power TEG224

Engineering Mechanics TEG255

Pneumatics TEG226

WORK EXPERIENCE HISTORY – (10 Year)

May 2010 – Sep 2012	APLNG CSG PROJECT – SIGMA ENG
Plus Ongoing APLNG	Brisbane & West Queensland Sites
Support & Consulting	Engaged as: Senior Construction Project Manager
	Position: Development and Execution of CSG Gathering Systems and associated Electrification

Duties as Consultant:

- Develop planning and strategies for the execution of APLNG Sustain Phase including Construction, Commercial and Organisational strategies.
- Review offshore vendor productivity, efficiency and quality for critical CSG surface equipment
- Critical Preservation Strategy Implementation for APLNG Surface Equipment delivered to field locations. Contractor and tactical management for best time



recovery of preservation position.

Duties as Construction Project Manager:

- Development of execution strategies for the implementation of the CSG Gathering systems installation, gas, produced water, and electrification
- Develop contract scopes, expressions of interest, tenders, tender evaluation and progressing of tendering parties into Early Contractor Involvement for the Gathering Systems.
- Develop commercial and contract platform for Gathering Installation post-comprehensive set of Early Contractor Involvement (ECI) processes with Tier 1, Tier 2, and Tier 3 contract resources.
- Participate in the delivery of contract award recommendations to Origin Energy and APLNG Boards.
- Assist in the development and working methodology for the Safety SIMOPS initiatives.
- Develop materials management and lay down strategies and tactical implementation approaches.
- Develop and commercially execute preliminary infrastructure, 400-person camp, and materials lay down facilities concepts including tender, contract development, award, and contractor management to mini-project completion.
- Provide constructability, planning and unit rate evaluation input to the execution works and sequence for the Gathering Systems.
- Support corporate environmental development and formation of initial standard engineering solutions to environmental focuses of construction.
- Development of the execution Workpack documentation process for the issue of encompassing packages of work to the installation contractors, which include land access, safety, environment and technical scope definition.
- Assembly and management of a construction team for civil infrastructure, gas and produced water piping, and HV electrification.

October 09 – March 10

BHP BILLITON YEELIRRIE PROJECT – SIGMA ENG

Perth - Brisbane

Engaged as: Senior Project Consultant

Position: Modularization and General Project Execution Strategy

Duties:

- Produce Senior Management report on review of EPCM strategies and table a report



outlining a Yeelirrie Project execution model.

- Develop a framework for the commercial approach to the project and wider execution project integration including options analysis.
- Identify strategies for the inclusion of Chinese Design Institutes for the design of the Yeelirrie Uranium Processing including process design, basic engineering, 3D modelling and detailed design.
- Produce a Stick Build vs. Modular execution strategy evaluation based on ECP broad concepts, and basis of estimate and schedule.
- Identify the probable Chinese-based execution delivery model for the fabrication and provision of key equipment.
- Integrate the offshore, design, procurement, and fabrication strategies into the Australian-based construction and commissioning phase.

October 08 – January 09

BHP BILLITON FAST/JV RGV6 – SIGMA ENG

Perth

Engaged as: Senior Project Consultant

Position: Modularization Economics Development

Duties:

- Develop Stick Build vs. Modular execution economic cost evaluation model for RGP6 Iron Ore Project – Pilbara, Western Australia.
- Identify and index Module and Pre-Assembly targets in the RGP6 design scope.
- Manage the development of commodities-based quantity take off for the Module and Pre-Assembly target for estimate development purposes.
- Apply offshore fabrication and assembly costs and productivity to Plant design quantity take off by commodity.
- Develop heavy lift shipping and oversize land transport cost model for RGP6 Modules and Pre-Assemblies.
- Integrate offshore fabrication and assembly, transport, and infrastructure and site installation cost to develop an RGP6 Stick Build vs. Modular economic model.
- Provide senior management presentation and recommendations to BHP Billiton and RGP6 Fluor SKM JV Team.



August 08 – January 09

BHP BILLITON ODX STAGE 1 – SIGMA ENG

Adelaide & Roxby Downs

Engaged as: Senior Project Consultant

Position: Implement Construction Management Team

Duties:

- Participate as BHP Billiton representative at the steering execution level of the Uranium Tailings Leach Contracts with EPCM and CM contractors as part of the owner's team.
- Assembly, implementation and management of a site construction management team for the BHP Billiton owner's team for the Tails Leach site installation in Roxby Downs.
- Develop multidiscipline interface planning and resource allocation in conjuncture with BHP Billiton and EPCM (KBR) resources for site execution of works by CM resources.
- Assist in the development of commercial management strategies and execution recovery strategies for the delivery of construction implementation in the Roxby Downs and offsite fabrication locations.
- Participate and coach contractors and site teams in regular site based steering committee reviews of progress and identify potential schedule issues related with engineering and procurement deliverables, and the allocation of contracted execution resources and personnel.

February 07 – August 08

BHP BILLITON OLYMPIC DAM PROJECT – SIGMA ENG

Adelaide, China & Southeast Asia

Engaged as: Senior Project Consultant

Position: Modularization Economic Study Manager

Duties:

- Conceptualize, manage, implement and lead the Modularization vs. Stick Build economic evaluation for the Olympic dam Expansion.
- Develop detailed commercial strategies for the inclusion of Chinese Design Institutes into the broader commercial ODX strategy.
- Develop overall commercial and procurement strategies for the integration of Modularization into the EPC or EPCM framework including identification of critical risks and opportunity to retain BHP Billiton elements of procurement and execution.
- Undertake China and Southeast Asia based studies of fabrication capacity and



Modularization resources for up to 100,000 tons of process plant.

- Detailed Chinese facility capacity and pre-qualification for OHS, technical, and commercial purposes.
- Development management and coaching of Chinese Design Institutes - NERIN to complete the Olympic Dam Modularization Design Studies and 3-Dimensional Model development for estimate and NPV economic modelling.
- Conceptual development of comprehensive Modularization vs. Stick Build economic model for detailed execution and integration into NPV models.
- Detailed costing and capability assessment of 5 Southeast Asian Pre-Assembly and Fabrication locations of facilities – Malaysia, Thailand, Vietnam, the Philippines, and China.
- Develop detailed commodity-based cost database for ODX Module economics from 5 offshore locations, fabrication and assembly cost, and productivity.
- Comprehensive market research and costing of Oversize Heavy Lift Shipping for the ODX Project in Singapore, and development of cost tables and voyage schedules applicable to the ODX economic model.
- Management of Chinese Design Institutes - NERIN to produce Module Index Lists and 3-Dimensional Module Models, including individual Module Work Packs.
- Management of the development of a comprehensive economic evaluation of Modular vs. Stick Build delivery of ODX Project, offshore fabrication and assembly, shipping, land transport and site installation based on a commodity-level model.
- Presentation and recommendations to the Project Director and senior BHP Billiton corporate management for the Modular or Stick Build execution of the ODX Project.

March 06 – November 06

IVANHOE MINES MONGOLIA INC.

Ulaanbaatar, Mongolia

Engaged as: Executive Deputy Director

Position: Mongolian Country Manager

Duties:

- Provide direct operational management and leadership to 150 Ivanhoe Mines personnel across Finance/Accounting, Engineering, Legal, HR, IT, OHS & Environment, and general administration, and coordinate 600 site-based direct labour personnel seconded to the PM (Fluor) on the Oyu Tolgoi site.
- Support PM (Fluor) in the HR and IR interface with Ivanhoe direct hire site labour secondments and develop initial camp policies and procedures.



- Progress discussion and interface relations for border opening with Mongolian and Chinese government officials and define requirements and facilities for customs bonding in Oyu Tolgoi, Mongolia.
- Coordinate and develop 600 direct hire Oyu Tolgoi site personnel, and establish initial site policies for safety and IR, including the creation of an Employee Advisory Committee (Union-equivalent) and the development of the first Collective Agreement to address site union interests and influences.
- Interface with Mongolian tax officials for payments and audit purposes.
- Interface with the Mongolian State Inspection Authority and other key government departments for the application and maintenance of working permits and site OHS and Environmental standards.
- Development and maintenance of international medical and evacuation procedures and services in conjunction with SOS International, site and UB-based.
- Develop BOO/BOOT contracts for Oyu Tolgoi's fuel supply and long-term management of fuel supply for operations.
- Initiate travel and charter flight services contracts and site-based catering contracts.
- Develop initial contracts for light vehicle purchase and ongoing maintenance facilities, waste treatment services, thermal heating, incremental expansion contracts, and service contracts for the Oyu Tolgoi site.

October 05 – March 06

INCO TECHNICAL SERVICES - SIGMA ENG

Toronto, Indonesia & Australia

Engaged as: Area Manager Infrastructure

Position: Infrastructure Manager for the Greenfield

Scoping Study – Bahodopi, Sulawesi, Indonesia

Duties:

- Develop commercial and management strategies for the Bahodopi Scoping and Feasibility Study.
- Identify contract engineering resources and develop contract basis for the Greenfield Plant and Infrastructure Scoping Study (Project value estimate is at US\$1.8B).
- Coordinate and manage interfaces of engineering resources in Sydney, Perth, Indonesia, and Canada to develop the conceptual definition for a nickel plant infrastructure, port, power supply, water supply and hydropower, township, airfield roads, etc.
- Evaluate cost basis and associated options for infrastructure, and refine the most



attractive options for progression into more detailed study phases.

- Site investigations and evaluation, geographic and marine, for infrastructure location and option identification in Sulawesi, Indonesia.
- Contribution to risk assessment workshops in Canada.
- Permitting and legal review and strategy development in Jakarta.
- Economic strategic evaluation and overall schedule development.
- Presentations to senior Inco management in Jakarta on the economic position of the project, and proposal of a path forward and associated planning recommendations.

October 04 – July 05

ALCAN GOVE G3 EXPANSION – SIGMA ENG

Brisbane/Gove

Engaged as: Project Manager – Red Side

Position: Project Management of Red Side

Approximately half of the AU\$1.89B Total

Project Scope

Duties:

- Constructability and interface management reviews for the Modularization of prefabricated items with pre-site installation completed in Thailand and Malaysia, and reviews of yard layouts for Pipe Rack groups and Process Modules. Developed Module yard interface systems for site/yard survey and materials/pre-assemblies coordination in order to match work pack development.
- Champion the acceleration of fast track offsite fabrication, logistics and installation for three Rod Mills and associated Weigh Conveyor assemblies and Rod Chargers. Coordination of a multidiscipline installation team, and site liaison with operational personnel.
- Management of site-based Construction Manager and team, including all associated manning and organisational development for Red Side construction activities.
- Safety Management Planning and Development. Development of the first Lockout Procedure and System for the Alcan Gove site prior to G3 where only a paper tag clearance system was in place.
- Develop Level 3 & 4 Schedules with Constructor Groups Thiess, Downer and Barclay Mowlem to ensure that engineering, procurement/contracts, and fabrication schedules fit together and integrate into the overall construction and commissioning schedules, early Safety SIMOPS approaches to integrated work fronts.
- Construction execution budget management and control, trend and change management that includes scope and estimated refinement for work developed post-



Definitive Feasibility Estimate.

- Site liaison and interface management with Red Side and Materials Handling Operational groups to synchronise scheduled construction activities with planned operational shutdowns, the underlying objective of which is to eliminate or significantly minimise loss of production while maximising the overall safety and quality of construction.
- Review and verification of logistics and shipping requirements for Overland Conveyor and Material Handling components and Conveyor Galleries, Transfer Towers and other equipment required for installation during critical Operational Shutdown windows.

February 04 – October 04

ANGLOCOAL AUSTRALIA – SIGMA ENG

Brisbane

Engaged as: Consultant

Position: Concept and Contract Development

Duties:

- Develop and assemble commercial and contract package for Design and Construction contract for the 21km Overland Conveyor and 3 ROM Crushing Stations and compile framework for Product Handling and Coal Wash Plant contract packages at German Creek.
- Contribute to the senior management's strategy development of Partnering Contract feasibility with EPCM resources.
- Develop Tender Evaluation Criteria for Contract Packages.
- Compile Design and Construction contract scope of work for the Overland Conveyor and the ROM Dump Stations and Crushing facilities.
- Develop concept engineering for 1200tph, 21km Overland Conveyor and 3 ROM Dump Stations and Crushing facilities for presentation to site and other stakeholders, including preferred routes, location of drives and surge bins, etc.
- Develop management level control estimate for Overland Conveyor, Surge Bins, and ROM Station project management and construction.
- Coordinate preliminary Survey and Geotechnical investigations for Conveyor Drives and Surge Bins, and Survey for Conveyor route in order to avoid old subsidence areas and proposed new mining areas.



January 04 – February 04

BHP BILLITON IRON ORE – SIGMA ENG

Newman WA

Engaged as: Engineering Consultant – Direct Contract

Position: Asset Management Auditor

Duties:

- Compile comprehensive information on asset condition of the Newman Water Supply System and provide recommendations for the commercial process of the potential transfer of the Water Supply and Treatment assets to the Water Corporation WA.
- Interface with legal and commercial management in BHP Billiton and Water Corporation WA to establish strategies for operation transfer in front of asset transfer with focus on risk, quality of supply, and asset value.
- Compile technical, operational, and commercial information on Water Treatment Plant, Bore Field Pumps and Pipelines, Field Pump Stations and Storage Tanks for use in the financial modelling by Water Corporation WA.
- Present conclusions and recommendations to senior BHP Billiton management.

November 01 – November 03

GORO NICKEL PROJECT - INCO – SIGMA ENG

Brisbane Project Office with Extension to Site

Engaged as: Project Manager

Position: Client Project Manager for Port and Infrastructure, Permitting and Mine for the Goro Nickel Project – New Caledonia
US\$1.4B @ BFS

Duties: - During Project Suspension

- Revisit and evaluate BOO and BOOT options for commercial delivery of Port infrastructure.
- Develop critical options analysis for commercial approaches to the restart of the Project, complete with recommendations.
- Assist in the overall re-establishment of EPC/EPCM resourcing through comprehensive resource identification and evaluation process, and subsequent engagement of candidate EPC/EPCM resources for review (Phase II Review).
- Contribute to EPC/EPCM pre-qualification, evaluation, and selection for Phase II Review. Development of evaluation criteria and scoring system for the selection process.
- Development of an Early Works Strategy to eliminate capital cost associated with



duplication of temporary and permanent facilities.

- Review Camp and accommodation strategies on site.
- Develop integrated logic linked plan and schedule incorporating engineering, contracting, permitting, logistics, and construction, plus associated labour accord and other community relations concerns.
- Lead a 40-person multidiscipline engineering design team to investigate Port, Bulk Materials and Bulk Liquids scope and configuration, cost reduction, and validation of previous estimate base. Develop alternative designs for Port and associated infrastructure to achieve a US\$30M reduction in capital cost.
- Develop conceptual viability of modularization approach to the Goro Plant construction. Manage and coordinate a study to validate the cost-saving potential of using a Modularization approach to construction, with net savings identified in the region of US\$50M direct costs reduction over stick built approach on site.
- Develop detailed Construction and Modularization planning and scheduling with the review Engineering Team (Foster Wheeler and SNC) to ensure that key strategy, schedule, and cost data were available to the greater project cost reduction and value engineering program.
- Participate and contribute to key Risk Assessment and Value Improvement sessions for Port, Project Implementation, Project Safety, and other critical construction associated areas.

Duties: - During Execution Phase of the Project

- Project Management of Port, Bulk Materials and Bulk Liquids design with US\$100M margin. Wharf Construction, Wharf Port Yard, 3km Overland Conveyor, and Bulk Diesel, HFO & Kerosene facilities.
- Management of Permitting for Mine, Port, and Infrastructure facilities. Critical path network planning to meet construction start dates. Supervision and procedure development for EPCM contractor (Bechtel, Technip, and Hatch – BTH) in order to achieve construction dates with appropriate permits in place.
- Project Management of Mine Area at US\$80M+ - Mine Pre-Strip Development, Rock and Aggregate Quarry and associated Haul Roads, Thickened Tailings Containment Berms, and Waste Dump Berms, 40m Concrete-faced Rock-filled Reservoir Dam, Spillway and Diversion Tunnel, and 1.7M Tonne Quarry Development. Management of Geotechnical Team (Golder Associates) to provide geotechnical data to the project design team.
- Project Management of the Feed Preparation Plant, Thickened Tailings Plant, Ocean



Outfall Pipeline, all Overland Slurry Pipelines and Water Supply Pipelines, and inter-facility Power Supply, with an approximate composite value of US\$100M.

- Interface with EPCM contractor to develop cost-effective designs through regular progress meetings. Provide leadership to EPCM contractor to maximize cost-effective design effort and eliminate review churn.
- Maintain team focus on budget and schedule objectives for all areas to ensure that strategies for construction reflect schedule objectives. Ensure that all critical milestones and activities are communicated to the team and integrated into the schedule.
- Work with EPCM contractor to develop contract strategies for major parcels of work, mostly Partnering and Performance Incentive type arrangements, and ensure that critical procurement activities integrate into the main schedule for contracting and procurement.

PROFESSIONAL QUALIFICATIONS

Graduate Member of

THE INSTITUTION OF ENGINEERS AUSTRALIA #1384026

GOLDEN KEY NATIONAL HONOUR SOCIETY

INDUSTRIAL & MANAGEMENT TRAINING

Pneumatic Pressure Testing

Practical Erosion and Sedimentation Control

Telstra Accreditation in Optical Fibre Jointing and Termination Practices & Testing using OTDR and Light Source & Power Meter

Certificate III in Polymer Processing PMB30107 – PS557

Certificate II in Conservation and Land Management

Campbell Gas Conditioning Course G4

Supervisory Induction (BHP Iron Ore)

Senior First Aid (St. John Ambulance Australia)

RCM II Training (3 day) (Price Waterhouse Urwick)

Maintenance Planner's Course (Paradigm Shifting Pty Ltd)

Problem-Solving & Decision-Making (Kepner Tregoe)

Project Management (Kepner Tregoe)

Mine Economics (Runge Mining Training)



Life Cycle Costing (Paradigm Shifting Pty Ltd)

Safety Driving Course (4WD Training & Safety Australia)

MIMS Software Introduction (BHP Iron Ore)

Business Writing Skills

REFEREES

On request, position specific