Corporate Industrial Security

By

Mohammed Al-Ghadhbani
Banquet Hall Evacuation Floor Plan
Maaden ultimate objective is to people and the environment.
Maaden follows:

- HCIS Regulations.
- Government rules and Standards.
- International Standards, OSHA, NFPA...
Achieving Zero Harm

1. Provide a working environment which is conducive to health and safety.

2. Identify, assess and manage risk to employees and contractors and impacts on the environment.

3. Set measures and review HSE performance targets, and objectives, benchmarking against best international practice.

4. Developing a safe behavior culture as a key component.
Achieving Zero Harm

5. Provide resources to achieve our performance targets.

6. Develop our people and assess their HSE competency.

7. Ensure reporting at-risk behavior, hazardous conditions and environmental.

8. Meet legal requirements, and national standards and international codes of practice for environmental aspects.
Achieving Zero Harm

9. Maintain a HSE management system aligned with internationally recognized standards and leading industry practice.

10. Prevent or minimize environmental pollution, conserve natural resources, minimize waste.

11. Communicate with employees, contractors, suppliers, government agencies, visitors and communities to share the responsibility for meeting this objective.
Ma’aden, Saudi Arabian Mining Company
Suppliers Briefing Corporate Overview

Eng Abdullah Abdulgader
Executive Director, Project Management & Engineering
Moevenpick Hotel, Al Khobar
29th June 2009
Evolution of Ma’aden

- Ma’aden formed by Royal Decree
- 50% of Petromin’s interest in the Saudi Mining Company for Precious Metals (SCPM), including Mahd Ad Dahab mine transferred to Ma’aden
- The Mining Investment Law in Saudi Arabia was issued by Royal Decree
- Ma’aden opened Al Hajar gold mine, heap leach commissioned in 2001
- The construction of the North South Railway approved by the Council of Ministers
- Ma’aden opened Bulgah Gold Mine
- Ma’aden entered into Heads of Agreement with Alcan (circumstances later forced Rio Tinto Alcan to alter their role in the project).
- Ma’aden entered into a Joint Venture with Alcan
- Al Amar gold mine reached full production
- Ma’aden purchased the remaining 50% interest in SCPM
- Ma’aden opened Al Hajar gold mine, heap leach commissioned in 2001
- Completed successful IPO selling 462,500,000 shares (50% of company)

Ma’aden is a publicly traded company with a capital of over SR 9.25 billion
Ma’aden is developing projects in gold, phosphate, aluminium, magnesite, cement grade bauxite, ethylene di-chloride and caustic soda

Building a world-class mineral enterprise
Rail Infrastructure

- 1,500 kilometres
- Public Investment Fund
- Louis Berger Group is PMC for railway, with Canarail & Systra
- Contractors from Japan, Australia, China and Saudi Arabia
- Longest new railway in the world since Alice Springs – Darwin (Australia)
Business Update

- Phosphate
- Gold outlook
- Industrial Minerals
- Ma’aden in the community
- The future & new business

Sukhaybarat Mine, Saudi Arabia
Phosphate Progress

- Financing completed in June & July 2008 including conventional, Islamic and export credit agency funding
- PIF & SIDF participation
- Two financing awards
- Construction at an advanced stage
- On schedule completion expected
- Production starts Q4 2010
- Outputs:
  - 5.02 mtpy phosphate concentrate
  - 2.92 mtpy DAP
  - 444,000 tpy excess ammonia
Phosphate construction 2009

Ras Az Zawr: SAP plant bird’s eye view

Ras Az Zawr: ammonia tanks 1 & 2

Al Jalamid: beneficiation plant floatation and filtration

Al Jalamid – wet storage shed
Phosphate construction 2009
Ma’aden Gold main assets

- Mining Assets
- Advanced Exploration Properties
- Exploration Properties
- Head Office

- Bulghah
- Sukhaybarat
- Al Amar
- Riyadh
- Ad Duwaihi
- Mahad Ad Dahab
- Jeddah
- Al Hajar
- Ma’aden Gold HQ
Central Arabian Gold Region

- Regional plant to process ore from the following projects
  - Ad Duwayhi: 17.0 M tons @ 3.4 g/t Au
  - Mansourah: 25.0 M tons @ 2.2
  - Massarah: 14.0 M tons @ 2.2
  - Ar Rjum: 32.0 M tons @ 2.1
  - Zalim: 11.0 M tons @ 1.7

Total Gold Content: 8.5 M Oz
Industrial Minerals

Magnesite
- Located in the north-central part of Saudi Arabia
- High grade resource at Zarghat
- Operational in 2010
- Investment cost of approximately $63mm
- 2.7 million tonnes proven reserves and comprises four separate bowl-shaped ore bodies that outcrop within 300m of each other

Kaolin & Low Grade Bauxite
- Located in central zone of Az Zabirah lease area
- 250,000 tpa cement grade bauxite feedstock
- 50,000 tpa kaolin
- Operations commenced in early 2008
- Capex of approximately of $4m

Chlor Alkali
- Located in Jubail
- Production of caustic soda – feedstock for refining of bauxite to alumina
- Proposed 50/50 joint venture with Sahara Petrochemical Company
- Capacity to produce up to 250,000 tpy of caustic soda and 300,000 tpy of EDC
Ma’aden in the community

- WBCSD definition of Corporate Social Responsibility
- 10 principles defined by the ICMM
- Benchmark and impact studies on all new projects
- Active community relations for operations and exploration
- Support for community projects – focus on education

Sponsors of The Scouts Association of Saudi Arabia five year environment clean up campaign 2009 - 2014

Deployment of sub surface buoy

Marine ecology survey at Ras Az Zawr

Recording data along transect line of macro algae habitat site
Investing in people

- Vocational training for mining and associated industries
- MOU signed with TVTC January 2009
- 2 colleges: Arrar and Ras Az Zawr
- Selection of international operator underway
- Language training and quality assurance measures
- Utilizing successful model pioneered by petrochemical and auto industries
Ma’aden’s future

• Creating long term shareholder value
• Building the third pillar of Saudi industry
• Expansion of sector expertise in Saudi Arabia
• Development of downstream sectors

• Actively seeking partnership opportunities
  – Joint ventures
  – Investment
  – Technology
  – Training

• Massive exploration potential
RAS AZ ZAWR ALUMINIUM PROJECT

Project Overview

29th June 2009
Strategic Intent

To create a commercially, socially, and environmentally viable primary aluminium industry meeting local and international needs.

- Leveraging the country’s low cost position based on power allocation, a bauxite resource, a government-funded railway & port, and the development of a full value chain in one location.

- Developing a long-term industrial strategy based on downstream industries and applications in the aluminium sector.

- Diversifying Ma’aden portfolio of investments to optimize its risk/return profile.

- Becoming the partner of choice for all future developments in aluminium and other metals and mining projects in Saudi Arabia.
Strengths

- Large scale, low cost, long life project.
- Government support:
  - Long term low cost fuel supply
  - National Railway
  - Port
- Location with respect to metal markets i.e. Saudi Arabia, Europe, Far East, etc.
- World-class smelting technology and state of the art environmental protection technology.
Opportunities

- Take advantage of the present market downturn to reduce the cost of the project.

- Continue exploration of the bauxite reserves in the Central Zone to permit an increased refinery output from 1.8 mtpa to 3.6 mtpa.

- Expand the smelter output in the future.

- Convert primary metal into value added products such as billet, sheet, foundry, cable, etc.

- Develop downstream industries such as a rolling mill at the industrial site in Ras Az Zawr.
SCOPE

<table>
<thead>
<tr>
<th>Capacity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mine mtpa</td>
<td>4.0</td>
</tr>
<tr>
<td>Refinery mtpa</td>
<td>1.8</td>
</tr>
<tr>
<td>Smelter ktpa</td>
<td>740**</td>
</tr>
<tr>
<td>Power MW</td>
<td>1,350 MW</td>
</tr>
</tbody>
</table>

Note:

** AP-37 at start-up and AP-39 after the first relining.
Bauxite in Saudi Arabia

- Ba’aitha Bauxite
  - Southern Zone 203 Mt
  - Central Zone ~ 100 Mt
  - Northern Zone (small)
Site - Ras Az Zawr
Work done

Studies

• Previous Ma’aden studies on the bauxite reserves, mine, refinery, smelter, and power station  Prior to 2007

• Pre-feasibility Study and Project Review  Jun 2007 – Aug 2008

• Ma’aden Strategic Review  Year-end 2008
EXECUTION STRATEGY

Approach

• The Owner maintains the management of the integrated Aluminium project.

• Owner’s Teams have been put together for the Mine & Refinery, Smelter and Power.

• The Smelter and Mine & Refinery will be executed using the EPCM approach:
  - Mine & Refinery: Fluor
  - Smelter: Bechtel
Supplier & Contractor Event
Bob Clayton

Movenpick Hotel, Al-Khobar
June 29, 2009
Project Scope

- Largest smelter ever built as one project
- Port unloading equipment & silos
- 2 potlines of Reduction Cells – 1.3 km
- Carbon Area for making anodes
- Casting plant for solidifying molten metal
- Connections to Power Plant – 1350 MW
- Infrastructure: air compressors, security, admin buildings, sewage treatment, roads
### Quantities

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manhours</td>
<td>21 million</td>
</tr>
<tr>
<td>Concrete</td>
<td>210,000 m³</td>
</tr>
<tr>
<td>Structural steel</td>
<td>46,500 mT</td>
</tr>
<tr>
<td>Rebar</td>
<td>20,000 mT</td>
</tr>
<tr>
<td>Electrical cable</td>
<td>1,900,000 m</td>
</tr>
<tr>
<td>Cable Tray</td>
<td>100,000 m</td>
</tr>
<tr>
<td>Piping</td>
<td>44,000 m</td>
</tr>
<tr>
<td>Cladding/Roofing</td>
<td>400,000 m²</td>
</tr>
<tr>
<td>Aluminium</td>
<td>32,500 mT</td>
</tr>
</tbody>
</table>
Anticipated Dates

- Feasibility Study complete          Jan 2010
- Financing and project approval     Feb 2010
- Start site work                   Feb 2010
- First Concrete work               Oct 2010
- Start steel erection              July 2011
Bechtel - EPCM

- Does all the engineering
- Provides procurement & contract management
- Manages quality
- Provides planning services
- Manages all construction work
- Reports on progress and costs
- Assists in startup and commissioning
SUPPLIER EVENT
Procurement and Contracts

29 JUNE 2009, MOVENPICK HOTEL, AL-KHOBAR
Bechtel’s Safety Foundation

- Bechtel is committed to avoiding accidents and other occurrences that result in injury to employees, interruption of production, or damage to equipment or property.

- Bechtel will take every action necessary in engineering, planning, assigning, and supervising project operations to establish and maintain safe and healthful working conditions on our projects and protect the general public and environment.

- All Incidents are preventable – No One Gets Hurt!
Safety Expectations

Contractors and Suppliers

✓ Demonstrate Top Management Commitment to Safety Values
✓ Ensure all work is carried out in a safe manner
   ✓ Provide a safe working environment
   ✓ Provide safe methods of work
✓ Ensure plant & substances are safe & without risk
✓ Ensure activities don’t put employees or the environment at risk
✓ Provide information, instruction, supervision & training
✓ Provide adequate:
   ✓ - Facilities
   ✓ - Amenities
   ✓ - Tool & equipment
   ✓ - Personal Protective Equipment
Site Rules

✓ SAFETY – EACH CONTRACTOR WILL BE ACCOUNTABLE FOR THE SAFETY OF HIS PEOPLE

✓ INDUCTION – NO EMPLOYEES WILL BE ALLOWED ON SITE UNTIL THEY HAVE ATTENDED INDUCTION TRAINING AND RECEIVED A BADGE

✓ NO CONTRACTOR WILL BE ALLOWED ON SITE WITHOUT AN APPROVED ‘HSE’ PLAN

✓ ENVIRONMENT - EACH CONTRACTOR WILL BE HELD ACCOUNTABLE FOR CONTROL OF THEIR WORK AREA AT THEIR COST
Safety Expectations

THE GOAL IS ZER0

• Near Hits
• Environmental Damage
• Property Damage
• Fires
• Injuries
Contracting Philosophy

- Award contracts to a mix of specialist and local companies.

- LSTK contracts will be awarded for specialist packages such as the Gas Treatment Centers, Paste Plant, Bath Plant etc.

- Erection contracts will be awarded for packages such as Site Preparation and related infrastructure, Concrete Work, Structural Steel Erection etc.

- Contracts will be bid competitively and the lowest priced, based on Full Economic Cost (FEC), technically qualified company will be recommended for award.
Contract Opportunities

- Camp and Offices for Construction - Design, Supply, Install
- Earthworks, Access Roads, Temporary fencing for site
- Earthworks for Smelter site
- Temporary Construction Utilities
- Camp Operation and Maintenance
- Medical Services
- Freight Forwarding, Customs Clearance and Inland Transportation
- Civil and Concrete Work
- Structural Steel
- Piling for Port area
Contract Opportunities

• Buildings - Architectural and Main Offices including Cafeteria and Medical Center, Gatehouse and Area Offices
• Buildings - Substations
• Buildings-Industrial (Central Maintenance Workshop, Compressor Building, Blower Room)
• Above Ground and Underground Services
• Mechanical Equipment Installation
• Electrical, Instrumentation and Controls Installation
• Potlining and Cathode Sealing
• Refractory Installation
• Landscape and Fencing
Procurement Philosophy

✓ Lowest Full Economic Cost, Quality and On time Delivery

✓ Minimize transportation and risks associated

✓ Optimize local fabrication and supply
# Procurement Opportunities

<table>
<thead>
<tr>
<th>MATERIAL DESCRIPTION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Bins and Skips</td>
<td>Gaskets, Rubber and Vulcanizing for Fume duct covers including rubber cover mats</td>
</tr>
<tr>
<td>Ductwork-Steel (Gas/Fume/Dust)</td>
<td>Generators, Emergency Diesel for Potline and Power Supply System</td>
</tr>
<tr>
<td>Ductwork-Steel (Rodding Shop)</td>
<td>Heating Tent</td>
</tr>
<tr>
<td>Bolts for Fume Ducting</td>
<td>Hoppers, Mobile</td>
</tr>
<tr>
<td>Supports for Fume Ducting</td>
<td>Pot Hoods</td>
</tr>
<tr>
<td>Cast Iron Channels for Bake Furnace</td>
<td>Pot Lining Tools (Thickness Wedges, Tool Racks)</td>
</tr>
<tr>
<td>Cable, Fibre Optic Network, Plant wide</td>
<td>Pallets, Anode</td>
</tr>
<tr>
<td>Cable, Telecommunication Network, Plant wide</td>
<td>Steel -Miscellaneous Platforms</td>
</tr>
<tr>
<td>Cables and Terminations; 11kV; 33kV</td>
<td>Tools for Potline Start-up &amp; Operations</td>
</tr>
<tr>
<td>Computer System Hardware, Plant wide offices</td>
<td>Tools and Stands, Miscellaneous for crucible cleaning</td>
</tr>
<tr>
<td>Equipment Hold Down Bolts</td>
<td>Tools and Equipment, Carbon, Casthouse Maintenance shop</td>
</tr>
<tr>
<td>Emergency Lighting System</td>
<td>Tools, Cathode Sealing</td>
</tr>
<tr>
<td>Eyewash Stations</td>
<td>Tools and Equipment, Bake Furnace</td>
</tr>
<tr>
<td>Fencing</td>
<td></td>
</tr>
<tr>
<td>Fountains, Chilled Drinking Water</td>
<td></td>
</tr>
</tbody>
</table>
## Procurement Opportunities

<table>
<thead>
<tr>
<th>MATERIAL DESCRIPTION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Labels, General</td>
<td>Anchor Fasteners</td>
</tr>
<tr>
<td>Louvers</td>
<td>Structural Bolts</td>
</tr>
<tr>
<td>Lighting Fixtures and Equipment - Various Types and Sizes</td>
<td>Grout</td>
</tr>
<tr>
<td>Manholes/Culvert Pipes</td>
<td>Cable and Wire - Low Voltage, Medium Voltage, High Voltage</td>
</tr>
<tr>
<td>Paint</td>
<td>Cable Tray and Ladders</td>
</tr>
<tr>
<td>Panelboard - Power Distribution &amp; Emergency Lighting</td>
<td>Cable Tray Accessories (Unistrut Channels, Connector, Base Plate, Cable Numbers etc.)</td>
</tr>
<tr>
<td>Pipe PVC &amp; Fittings (Sizes: 2.5&quot;-4&quot;, 5&quot;-8&quot;)</td>
<td>Cable Accessories (Glands, Lugs, Clamps, Ferrules, Cable Markers etc.)</td>
</tr>
<tr>
<td>Pipe FRP &amp; Fittings – (Sizes 2.5&quot;-4&quot;, 5&quot;-8&quot;, 10&quot;-12&quot;)</td>
<td>Consumable Supplies- Mastic Sealant, Liners, Plastics</td>
</tr>
<tr>
<td>Pipe HDPE &amp; Fittings</td>
<td>Consumables Supplies - General</td>
</tr>
<tr>
<td>Pipe Supports (Standard/Engineered)</td>
<td>Epoxy Insulating</td>
</tr>
<tr>
<td>Switches - Low Voltage Safety/Disconnect</td>
<td>Fire Hose Cabinet</td>
</tr>
<tr>
<td>Tape for Isolating Cladding</td>
<td>Fire Hydrants</td>
</tr>
<tr>
<td>Tools, Installation (Various)</td>
<td>Fire Protection and Sprinkler System</td>
</tr>
<tr>
<td>Valves- Bulk (Various)</td>
<td>Fire Extinguishers</td>
</tr>
<tr>
<td>Welding Receptacle - 2-Phase &amp; 3-Phase</td>
<td>Junction Boxes</td>
</tr>
</tbody>
</table>
# Procurement Opportunities

<table>
<thead>
<tr>
<th>MATERIAL DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>Anchor Bolts</td>
<td>Safety Equipment and Consumables</td>
</tr>
<tr>
<td>Automobiles and Buses for Operations</td>
<td>Signs</td>
</tr>
<tr>
<td>Cranes, mobile for maintenance</td>
<td>Switchgear, 400V</td>
</tr>
<tr>
<td>Emergency Response Vehicle</td>
<td>Steel Formwork</td>
</tr>
<tr>
<td>Excavator, Pot Delining</td>
<td>Steel - Silos/Bins/Tanks/Hoppers/Chutes - Shop Fabricated</td>
</tr>
<tr>
<td>Forklifts</td>
<td>Steel – Gratings, Chequered Plate, Hand Rail</td>
</tr>
<tr>
<td>Loader, Skid-Steer</td>
<td>Sweeper Vacuum Cleaners, General Purpose, Plant wide</td>
</tr>
<tr>
<td>Loaders, Front End/Wheel</td>
<td>Timber Formwork including Nails</td>
</tr>
<tr>
<td>Man lift</td>
<td>Tractors, Road units</td>
</tr>
<tr>
<td>Office furniture and equipment, Plant wide</td>
<td>Trucks, Pickups/Personal carriers</td>
</tr>
<tr>
<td>Platforms, Lifting, Plant wide</td>
<td>Trucks, Pickups/Tool carriers</td>
</tr>
<tr>
<td>Roofing and Siding Material</td>
<td></td>
</tr>
</tbody>
</table>
Procurement/Contracts Process

START

PREPARE PROJECT CONTRACTING & PROCUREMENT PLAN

IDENTIFY AND PRE-QUALIFY BIDDERS FOR EACH PACKAGE

APPROVAL BY MA’ADEN OF BIDDER LIST

ISSUE e-RFQ TO APPROVED BIDDERS

SITE VISIT & QUESTIONS BY BIDDERS

SUBMIT & OPEN SEALED BIDS WITH MA’ADEN

TECHNICAL EVALUATION

COMMERCIAL EVALUATION

RECOMMENDATION TO MA’ADEN

APPROVAL BY MA’ADEN

AWARD OF CONTRACT

COMENCE WORK
Procurement/Contracts Process

What are the requirements to be on the bid list?

- Submit Pre-Qualification Information
- Sign the Confidentiality Agreement by authorized company representative
- Be specific about what you are interested in
- Demonstrate your experience
- Demonstrate your technical expertise
- Be able to provide quality goods and services
- Demonstrate commitment to SAFETY
Procurement/Contracts Process

What are the expectations of a contractor / supplier

• Be responsive to inquiries; return acknowledgements
• Provide complete information
• Comply with insurance requirements
• Comply with Health, Safety, Environmental expectations
  – Personal Protection Equipment
• Comply with financial requirements
  – Bid Bonds
  – Performance Bank Guarantees
  – Advance Payments and Retention of Payments
• Supply Quantities Specified
• Provide Quality System (eg: ISO 9001)
Procurement/Contracts Process
Confidentiality Agreement

- Technology is from Aluminium Pechiney
- Each Supplier and Contractor will be required to sign a CA prior to receiving an RFQ package
- Must comply with strict procedures on handling the AP documentation
- The CA will stay in force for 15 years
- All technical documents shall be returned, after the Bid period or completion of work, to Bechtel
Procurement/Contracts Process

✓ The e-RFQ (Electronic Request For Quotation) will be used during the Ma’aden project for both, Procurement and Contracts
✓ Information and instructions as how to use the RFQ and how to submit an Electronic quotation will be provided to a nominated Supplier/Contractor representative via E-mail
✓ https://registration.supplier.bechtel.com/Home.aspx
Procurement/Contracts Process

Use the navigation at the top or the links below to access your information.

**Company Registration**
- Update your company information in Bechtel's global database of suppliers and contractors.

**Document Upload**
- Upload documents to share with Bechtel.

**Project Opportunities**
- View a list of and indicate your interest in Bechtel projects worldwide.

**Inside Track**
- The essential Supplier Guide to successfully planning and executing work with Bechtel.

**News**
- New version of the Supplier Portal released April 12, 2008. Click here to leave feedback.

- For the latest instructions on using this site, please see the Returning Member Guide.

**Add Another Company**
- Register a separate company and access it with your existing login credentials. Note: use this link to register different companies only. Additional locations to existing registrations should be managed in Company Registration.
Procurement/Contracts Process

BECHTEL SUPPLIER AND CONTRACTOR PORTAL

HOME | REGISTRATION INFORMATION | COMPANY ADMINISTRATION | SWITCH COMPANY | LOGOUT

New Company Registration

Before you begin...
To register your company with Bechtel we ask that you fill out a short company questionnaire. In return, the information you provide is recorded in Bechtel's Global Supplier and Contractor database. This database is used by Bechtel projects worldwide as an initial source for developing a list of potential bidders.

Registration does not guarantee participation in Bechtel bid solicitations.

To register your company with Bechtel:

1. Using our simple search page, you will locate your company headquarters in the Dun & Bradstreet database.
2. Next, you will register yourself in the Supplier and Contractor Portal with your name, email address and password.
3. A short questionnaire will be provided for you to give us some basic information about your company.
4. The full questionnaire will then open, providing you with the opportunity to add more detailed information about your company and its capabilities.

This completes the registration process.
Providing more complete information about your company maximizes your visibility to Bechtel and your opportunities for new work. We recommend you review and update your information on a regular basis to keep it current.
Contact

✓ Contracts Manager
✓ Damien Mitchell @ +1 514 394 2747
✓ jdmitch@bechtel.com

✓ Project Procurement Manager
✓ Alain Roy @ +1 514 394 2996
✓ aroy@bechtel.com

✓ Administrative Assistant
✓ Isabelle Guimond @ +1 514 875 3004
✓ iguimond@bechtel.com
Ras Az Zawr Aluminium Smelter Project