Bahrain Petroleum Company (Bapco)

Operational Excellence in a Low Oil Price Environment

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Presentation Outline

1. Background
2. The Compelling Business Case
3. What is OE at Bapco?
4. Our OE Journey
5. Key Takeaways
The Bahrain Petroleum Company (Bapco)

Bapco is 100% owned by the Government of the Kingdom of Bahrain, and is an oil and gas company:

- Natural gas distribution
- Active oil and gas exploration
- Refining of crude to produce valuable petroleum products
- Storage and export of the refined products
- Marketing of the products locally and internationally
About Bapco

- Company was formed in 1929: in Canada
- Oil discovered in 1932
- Refinery first day of operation July 1936
- Today annual sales of refined products is > $6.0 billion
- Contributes about 70% of Bahrain’s economy
- Currently employs over 2500 people and is one of the largest employers in the Kingdom
From Pearls to Petroleum ....
‘Well of Hope’: Oil Discovered in 1932
Bapco Refinery

- Bapco operates the Bahrain Refinery - a world-class, world-scale refinery, exporting products to the world
- First day of operation of the Refinery was 12 July 1936 - we are over 75 years old
- Original two crude units were built in the 1930s: they are still in operation
- Current capacity 265,000 BPD
The Compelling Business Case

- Operational Excellence is how we implement the Company’s Mission.
- Getting this right in a low margin environment is imperative.
- We will show you what has worked for Bapco and hopefully you can gain some insight to help your business.
Setting Up for Success (1)

- Bapco OE Vision.

- What is OE at Bapco?
  - Operation Excellence is the Systematic Management of process safety, personal safety and health, environment, reliability and efficiency to achieve world class performance.
Setting Up for Success (2)

- **Leadership**
  - OE Team Formed
  - Sponsorship by top Leadership
  - Team Leader experienced in OE Implementation.

- **Processes**
  - A three (3) year Plan
  - We published the OEMS

- **Culture**
The Three Legged Stool Analogy

We need all three legs of the stool does not function.
Stage 1: Gap Analysis

- **Leadership**
  - Surveys
  - Objective measures of participation in V&V’s

- **Processes**
  - 29 Bapco OE processes
  - Gap analysis vs Chevron best practise

- **Culture**
  - Implemented OSOOL Bapco
Stage 2: Gap Closure

- Leadership
  - OE Fluency
  - OE Certification
- 29 Bapco OE processes
  - Rapid gap closure in design dimension
  - Most processes robust
- Culture
  - Still some gaps in culture
Stage 3: Enabling Leaders

- Leadership
  - V&V Tool enhancement
  - Central action tracking

- Operational Intelligence
  - Transparency
  - Actionable insights

- Culture
  - 5C Fluency: Clear expectations for behaviors
Stage 4: Governance

- Leadership
  - Line OE Governance the “right level”
  - Functional OE Governance at Top leadership

- Processes
  - Gained control and compliance across the whole OEMS

- Culture
  - A “doing“ culture

- Superintendent
  - Operations (6) or
  - Power & Utilities (2) or
  - Oil Storage & Export (3)

- Maintenance Superintendent
- Plant Reliability Specialist
- Central Reliability Engineer
- Technical Services Engineer
- Engineering Projects Representative
- OE Facilitator
- Invited Guest
Stage 5: Chevron OE Review - Quality Gaps

- Leadership
  - Gap: Validation Quality

- Processes
  - Gap: CHSM quality
  - Gap: IIR quality

- Culture
  - Gap: Workforce inconsistent hazard recognition quality

- 1,500 man-hours of audit were expended, 110 interviews and over 50 field visits were conducted

- OSOOL Bapco, Leadership knowledge or Risks and Controls, Verifications
Stage 6: Always do the right thing the right way

- **Leadership**
  - OE, in PMP’s
  - Visibility, Verification and Validation

- **Processes**
  - Quality Improvements
  - PTW, IIR, SWP

- **Culture**
  - People are wanting to always do the right thing the right way
Stage 7: Reaping the Benefits

- **Leadership**
  - Focus on Leading Indicators
  - Safety is not compromised for production or cost

- **Processes**
  - Best Reliability Records
  - Best Process Safety Records

- **Culture**
  - Best Loss Time Injury Record
  - Work force truly believes zero injuries and incidents is attainable
**Summary of our Methodology**

- **Lead, Align and Cascade OE**
  - Establish vision and widely communicate objectives metrics and targets (e.g. Osool Bapco).

- **Lead the MSP**
  - Personally lead MSP to drive continual improvement, integrating efforts into business plans (Gap closures).

- **Reinforce OE Culture**
  - Demonstrate that OE is a personal core value (role model)

- **Instill Operational Discipline**
  - Shape own behaviors and directing, monitoring and shaping workforce behaviors.

**Comply with OE Requirements**
Demonstrate compliance with OE requirements.

**Goal = zero**
Key Takeaways

• OE cannot be implemented and sustained successfully without having the right culture that supports it.
• OEMS Process improvements are not enough.
• Visible leadership engagement and commitment is key in nurturing the OE culture.
• OE rewards will include improved cost efficiency and cost effectiveness: Low oil price environment is the opportunity to prove this.
• It is a long journey, but it pays off.
• We are seeing the rewards but we cannot sit on our laurels!
Our Challenge is to Sustain our OE Culture