Integrating HES Into Major Capital Projects: A Phased Approach

Jeffrey W. Gifford, CIH, CSP
Deborah A. Brown, CIH, CSP

AIHce 2006
Chicago, IL
Major Capital Projects

- Projects where the anticipated expenditure exceeds $25MM

- Typically large scale, multi-partner, long-term projects that span the globe

- Recent examples: Benguela-Belize, Agbami, Sanha, Angola LNG, Tahiti, etc
Major Capital Projects
Typical Project Life Cycle

<table>
<thead>
<tr>
<th>Planning</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1</strong></td>
<td><strong>Phase 2</strong></td>
</tr>
<tr>
<td>Conceptual</td>
<td>Feasibility</td>
</tr>
</tbody>
</table>

Time
The Case for Early HES Integration

<table>
<thead>
<tr>
<th>Planning</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 Conceptual</td>
<td>Phase 2 Feasibility</td>
</tr>
<tr>
<td>Phase 2 FEED</td>
<td>Phase 4 Fabrication</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Phase 5 Operation</td>
</tr>
</tbody>
</table>

Value

Time

© Chevron 2005
Value Creation

Phase 1: Conceptual
Phase 2: Feasibility
Phase 3: FEED
Phase 4: Fabrication
Phase 5: Operation
The Case for Early HES Integration

Early integration and planning for HES are essential to creating value and ensuring the outcome your organization’s desire.

- A poorly planned but well executed project will be compromised.
- A well planned, but poorly executed project will typically be create more value.
- Optimally, a well planned and executed project will produce superior results.

In the absence of early integration, even world-class project execution will be compromised.
Phases 2 & 3a Lessons-Learned

**Great, I’m here...now what?**

- Decide what you want to be.
  - *Establish and clear and compelling HES vision early and be prepared to test it.*

- Assign strong, technically competent HES professional(s) early (Phase 2, if possible).
  - *Recognize different skills sets are required for different project phases.*

- Ensure you have enough resources to allow the HES Lead to take a high level view...then be visible.
  - *It’s very easy (and sometimes fun!) to get caught up in the technical details...don’t.*
Phases 2 & 3a Lessons-Learned

- Develop clear and comprehensive contract documents supporting your vision.
  - *Without it, it’s all uphill in execution.*
- Establish both line and functional accountability.
  - *HES part of line organization, but has functional accountability (and performance mgmt) from HES function.*
- Find good contract HES professionals, develop them, and hold on to them.
Value Creation

<table>
<thead>
<tr>
<th>Planning</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Phase 2</td>
</tr>
<tr>
<td>Conceptual</td>
<td>Feasibility</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Phase 4</td>
</tr>
<tr>
<td>FEED</td>
<td>Fabrication</td>
</tr>
<tr>
<td>Phase 5</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td></td>
</tr>
</tbody>
</table>

Value Creation
Phases 3 & 4, Looking Towards 5

Lobito Tomboco Project

- Subsea tie-back to Benguela-Belize Platform. Up to 22 subsea wells within 3 subsea centers.
- Project sanctioned in May 2004.
- VetcoGray is supplier of subsea systems.
- Subsea 7 is prime contractor responsible for flowlines, umbilicals and subsea system installation.
Phase 3b Lessons-Learned

- Get it into the contract.
- Hold conversations about safety and health with the bidding contractors.
- Work the Company Team culture.
- Plan, plan, plan
  - Ensure a reasonable schedule.
  - Ensure proper staffing.
Phase 4 Lessons-Learned

- Work the culture with your Contractors.
  - *Also, find ways to include subcontractors and suppliers.*

- It’s all about **LEADERSHIP.**

- Establish the expectation that *everybody’s* job is safety and health.

- Project leadership must ensure HES activities happen.

- Again, plan and plan some more.
Phase 4 Lessons-Learned

- Work the culture with your Contractors.
  - Also, find ways to include subcontractors and suppliers.

- It’s all about LEADERSHIP.

- Establish the expectation that everybody’s job is safety and health.

- Project leadership must ensure HES activities happen.

- Again, plan and plan some more.
Conclusions

- Critical Success Factors for HES Success:
  - Early planning & integration
  - Leadership and cultural change
  - Front-end loading the contract language
  - Proper staffing, both in competency and numbers
  - Capturing, sharing, and applying lessons-learned
Questions?