Overview of LLOG

- Founded in 1977
- Privately funded
- Largest US private oil producer
- 5th most active deepwater GOM driller
- 8th largest deepwater GOM producer
- 70% Exploration success rate
- 21 operated deepwater developments to date
- 43 operated subsea wells brought on production
- Who Dat FPS with 10 wells on production
- Delta House FPS with 8 wells on production

This is to Certify that LLOG Exploration was awarded the Safe Operations and Accurate Reporting (SOAR) Award
### LLOG’s Business Plan vs. Southwest Airlines

<table>
<thead>
<tr>
<th>Operating Area</th>
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<tbody>
<tr>
<td>Originally – Dallas, Houston, San Antonio. Currently - North America Only, Midway vs. O’Hare; Love vs. DFW; Hobby vs. Bush.</td>
<td>GOM Only. Mostly Mississippi Canyon focused. Some smaller projects (&lt;20MMB) that large companies won’t pursue.</td>
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<table>
<thead>
<tr>
<th>Standardization</th>
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<tbody>
<tr>
<td>Every Southwest plane is the same – Boeing 737. All the parts are the same. Fits same number of passengers so can switch planes in and out.</td>
<td>Same development plans – Use same FPS, manifolds, trees, casing. Most prospects are amplitudes and structures near other wells.</td>
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<table>
<thead>
<tr>
<th>Cycle Time</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Goal to keep a plane at the gate for twenty minutes between flights.</td>
<td>FPS projects in 3-4 years, subsea projects in 12-18 mos.</td>
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<table>
<thead>
<tr>
<th>Costs</th>
<th></th>
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<tr>
<th>Flexibility</th>
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<tr>
<td>No cancellation fees. No checked bag fees.</td>
<td>Delta House financing, develop other's leases just before they expire.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Fun</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comedy safety briefing, singing flight attendants.</td>
<td>Project video, movie, halloween, parties.</td>
</tr>
</tbody>
</table>
Delta House Project
Delta House Floating Production System

- New four column semisubmersible
- First production April 16, 2015
- Total project cost ~$2B
- Peaking capacity
  - 100 MBOPD
  - 240 MMCFD
  - 40 MBWPD
- Process production from five fields
- Currently producing over 80 MBOPD, 99% Uptime
- In the gulf of Mexico 130 miles southeast of New Orleans
- Located in water about a mile deep
- Designed to survive hurricanes
Delta House - Unique Aspects

• Designed to be first of many
• Engineering began prior to any discoveries
• Yard bidding prior to any discoveries
• Private equity to own FPS and Exports
• Sanctioned project with only two wells drilled
• About three years from discovery to first production
Delta House by the Numbers

- 39,000 Tons Displacement
- 15 MW power generation
- 15000 HP compression
- 9000 HP pumps
- Over 12,000 people involved
- Over 170 companies involved
- At its peak, enough oil to make 1.5MM gallons of gasoline per day
Delta House Project Scope
Delta House Suction Pile
Delta House Mooring Chain
Delta House Project
Mooring Polyester Rope
Subsea Tree
Subsea Manifold
Flowline End Termination
Umbilical
Pipelines
Riser Installation

Heeled: 0.00°
Trimmed: 0.00°
Riser Installation
Delta House Topsides
Delta House Topsides
Delta House FPS
Integration Time Lapse Video
Wet Tow

Photo courtesy Tim Burdick of Crowley Maritime
Delta House – Infrastructure Financing

- Capital for FPS and export lines provided by private equity
- Reduced capital required by producers
- Reduced threshold which allowed earlier sanctioning
- No mortgage on the fields which allowed producers to have other debt
## How can LLOG do it?

**Safe, Low Cost, On Time, On Budget, High Quality**

<table>
<thead>
<tr>
<th>Typical Industry</th>
<th>LLOG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Late Decision of Wet vs. Dry Trees</strong></td>
<td><strong>All Wet Trees</strong></td>
</tr>
<tr>
<td>- Expendable wells</td>
<td>- No expendable wells</td>
</tr>
<tr>
<td><strong>Each FPS custom</strong></td>
<td><strong>Design one, build many</strong></td>
</tr>
<tr>
<td>- Design after discovery/appraisal</td>
<td>- DH designed before discovery</td>
</tr>
<tr>
<td><strong>Vendors chosen late</strong></td>
<td><strong>Early Vendor Involvement</strong></td>
</tr>
<tr>
<td>- Bid after design</td>
<td>- DH bid before discovery</td>
</tr>
<tr>
<td>- How much to build this?</td>
<td>- How can we adjust the design so you can build it faster/easier/lower cost</td>
</tr>
<tr>
<td><strong>High Cost=High Threshold=Late Sanction</strong></td>
<td><strong>Low Cost=Low Threshold=Early Sanction</strong></td>
</tr>
<tr>
<td>- Need many wells to sanction</td>
<td>- DH sanctioned with 2 wells</td>
</tr>
<tr>
<td>- Infrastructure financing reduced threshold</td>
<td></td>
</tr>
<tr>
<td><strong>Decisions by Large Teams</strong></td>
<td><strong>On Site Project Manager with High Authority</strong></td>
</tr>
<tr>
<td>- Weeks response typical</td>
<td>- Hours response typical</td>
</tr>
</tbody>
</table>
Future Plans

- LLOG has begun engineering for the next FPS
- Optimization work to increase available payload
- Additional Capabilities (increased export pressure, water injection)
- Drill exploration wells
Contact Information

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rickf@llog.com
Backup
Delta House – Why the Opti-ex design?

- Wet trees – separate drilling and production
- Similar to recently executed Who Dat project
- Flexible to 10,000’ water depth
- Robust design for metocean conditions
- Quayside integration
- Single deck reduces schedule risk
- Reduced steel/easier to fabricate
Delta House – One Size Fits Most

- LLOG expected to build 10 units
- Capture learnings of each project
- Faster schedule
- Small incremental cost for bigger size
- Value of unused capacity
- Potential for expansion if capacity is too low
- Can design to handle a wide range of fluids

![GOM FPS's - Design vs. Utilization](image)
“And don't forget to have some fun!”
Delta House Timeline

2011
October
Topside/Hull
Engineering
Initiated

2012
February
First
Discovery

December
Topside
Construction
Initiated

2013
March
Hull
Construction
Initiated

2014
March
Hull Departs
Korea

June
Topside
Hull
Integration

October
Installation
Complete

2015
April
First Oil