Testing, Testing, Testing
Installing Upper Completions & Subsea Trees

Dan Smith
Subsea Engineer
Tree Systems Team

Perth
9/2014
Disclaimer and important notice

This presentation contains forward looking statements that are subject to risk factors associated with oil and gas businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

All references to dollars, cents or $ in this presentation are to US currency, unless otherwise stated.

References to “Woodside” may be references to Woodside Petroleum Ltd. or its applicable subsidiaries.
Safety Moment

Testing, Testing, Testing Installing Upper Completions & Subsea Trees
The Basics

- **EDP**
  Emergency Disconnect Package
  The wireline version of the Drillers Lower Marine Riser Package (LMRP)

- **LRP**
  Lower Riser Package
  The wireline version of the Drillers Blow Out Preventer (BOP)

- The Christmas Tree

- The Tubing Head

X m?

13.3 m
A Take Away Message

The 7 P’s....

1. Proper
2. Prior
3. Preparation
4. Prevents
5. P.....
6. Poor
7. Performance

Give me six hours to install a tree and I will spend the first four testing the running tools, well control equipment and the ROV gear...

A Subsea Engineer
Factory Acceptance Testing

Testing, Testing, Testing Installing Upper Completions & Subsea Trees
Extended Factory Acceptance Testing

Testing, Testing, Testing Installing Upper Completions & Subsea Trees
System Integration Testing

Subsea Hardware

Singapore Factory Acceptance Testing...
Pre-Mobilisation Testing

Testing, Testing, Testing Installing Upper Completions & Subsea Trees
Installation

Testing, Testing, Testing Installing Upper Completions & Subsea Trees
The Real Test is on the Day

Christmas Tree

= Closed

= Open

120m

~ 0 Bar
The Three Take Away Messages

1. Testing.
2. Testing..
3. Testing, Testing, Testing Installing Upper Completions & Subsea Trees
Questions