Offshore Pipeline Engineer Competency Framework

Presented by
Eric Jas
What is it?

Knowledge + Skills + Experience = Competency
Example – use of a chainsaw
Step 1 – read instructions
Step 2 – give it a go
You probably **will** get hurt.....

..... or someone else.

![Image of human body with red dots indicating injury locations]

- Head Injuries: 3,418
- Upper Body Area: 2,141
- Arm and Hand Area: 17,994
- Leg Area: 16,348
- Foot Area: 2,885

**Accident location and frequency as related to chain saw use (1994)**

U.S. Product Safety Commission
And the job won’t be done...
Competency doesn’t just happen
The need in our industry

Resource Boom
- 2005 – 2015
- Fuelled by major LNG projects
- Demand for pipeline engineers increased
- Shortage of pipeline engineers

Skills Shortage
- Influx of pipeline engineers
- Focus on high volume of output
- “Silo” effect and specialisation
- Learn “on the job”

Skills Development
- Develop engineers with breadth (vs depth) of expertise
- Establish industry framework to define expectations
- Better industry and engineers
How to achieve competency? (examples)

Relevant engineering degree
- Engineering degree that will provide the theoretical underpinnings to the discipline ..... 
- Recognised by Engineers Australia .... 
- Relevant science or other engineering discipline may also be considered ..... 

Experience
- Has designed or been in a design team, which has performed ..... 
- Demonstrates understanding and application of ..... 

Expertise
- Undertakes all aspects of the offshore pipeline mechanical design...... 
- Identifies the range of mechanical design issues that may affect offshore pipelines ..... Understands the key drivers and interfaces for offshore pipeline mechanical design......
Resulting capabilities (examples)

• Capable of performing the mechanical design ..... 
• Capable of identifying aspects of the design that may influence ..... 
• Capable of effectively communicating the key drivers and interfaces .....
“As an engineer, my job is just to develop the best technical solution. So why do I need communications skills? “

“This is a common view from engineers. What are your thoughts?”
Engineers? Communicating?
Battery Limits

FIELD DEVELOPMENT SCHEMATIC (FIXED PLATFORM)
Competency Framework

12 Competency Areas

57 Competencies

Applicants required to achieve 21 Competencies
Competency Framework

1. General Engineering
2. Flow Assurance and Process Engineering
3. Materials, Welding and Corrosion
4. Safety Management and Risk Assessment
5. Environment and Heritage
6. Design of Offshore Pipeline Systems
7. Design of Pipeline Related Structures
8. Design of Risers (Rigid, Flexible, SCRs)
9. Construction Engineering and Management
10. Offshore Pipeline Project Management
11. Hydrotest, commissioning and preparation for operation
12. Asset management and Pipeline Operations
How does it affect you?

- Framework to developing the expertise of engineers
- Provide clarity to pipeline engineering career pathways
- Emphasises the value and importance of pipeline engineers
- Emphasises the value and importance of pipeline industry
- EA recognition of Pipeline Engineering as a discrete discipline

In the long term, this framework delivers a highly competent workforce that can support development of the industry
What’s next

- Implementation in Australia
- Implement globally