Minutes

Chair Person – David Dartford – Noble Drilling
IADC Chair -

Will Averil – Chevron- driving contractors to take the lead.

BOP Controls – Best Practices
• Consensus on competency training

Root Cause Analysis – Operational Excellence

Noble implemented an Operational Excellence Reliability Assurance Group
ISO 14224

Classification of Equipment of Failures
Best Practices – send to position not to person

Review of Noble Equipment Failure Investigation
• Subsea
  • Summary Forms to ISO Codes
  • Planned Time – report
  • Fluids are part of the root cause analysis
  • Competency Training
    • Transfer of best practices to IADC

BOP Controls
• Built in diagnostics
• Internal diagnostics
• Built in analysis resulting in overwhelming alarms
• Not data but analysis – owner analysis – has ownership
• Separate components not stifling competition
• White Board – nuts & bolts
  o How long to repair –
    • KPI’s
    • User Controls – standard deviations
  o Alarms Functions – 2 types
    • Alarm information
    • Data information

  o Borrow from other technologies
    • Aerospace
    • Nuclear
    • Process Industry
  o Benchmark Test Valves
International Association of Drilling Contractors

- What is reliability
- Data feed from the field – what is driving the technology

- Process Industry
  - Reliability data specifications
  - Manufacturers provide reliability data
  - Gathering data

- Reliability and Safety
  - Separate KPI's
  - Reliability – How long to repair
  - User Controls – standard deviations
  - Alarms and Functions – balance of information

Drilling Industry

- View themselves as unique and cannot borrow from other industries
- Lock into technology ; does it stifle technology
- More sense to put more diagnostic on stack
- Analytical design stifles technology

Electrical World – Cyber Security DNV has one week
  - Controls standards coming out – with more data being generated in real time
  - compromise on security is no compromise
  - Commercial and safety concerns in protecting data.

Final Overview and Efforts

- Cyber Security
- Getting data returned
- Sharing data with OEM's
- Returning broken components back to OEM’s for performance base manufacturing with base lines , Common trends – Difficult in certain areas – One of Nobles Best Practices
- Target Text for best practices
- Effort and work on componenets

Attendance:

Tony Modaro, AWC Incorporated
Floyd Estay, Axon Energy Products
Chris Robertson, Axon Energy Products
Gene Cammack, Exida Consulting
Don Hickman, Hickman Sales & Service
Scott Maddox, IADC
Bob Cowan, National Oilwell Varco
David Dartford, Noble Drilling
Charles Graff, Parker Hannifin Corporation
Eldon Thomas, Parker Hannifin Corporation
Carlos Beltran, Parker Hannifin Corporation
Peter Skipp, Rockwell Automation