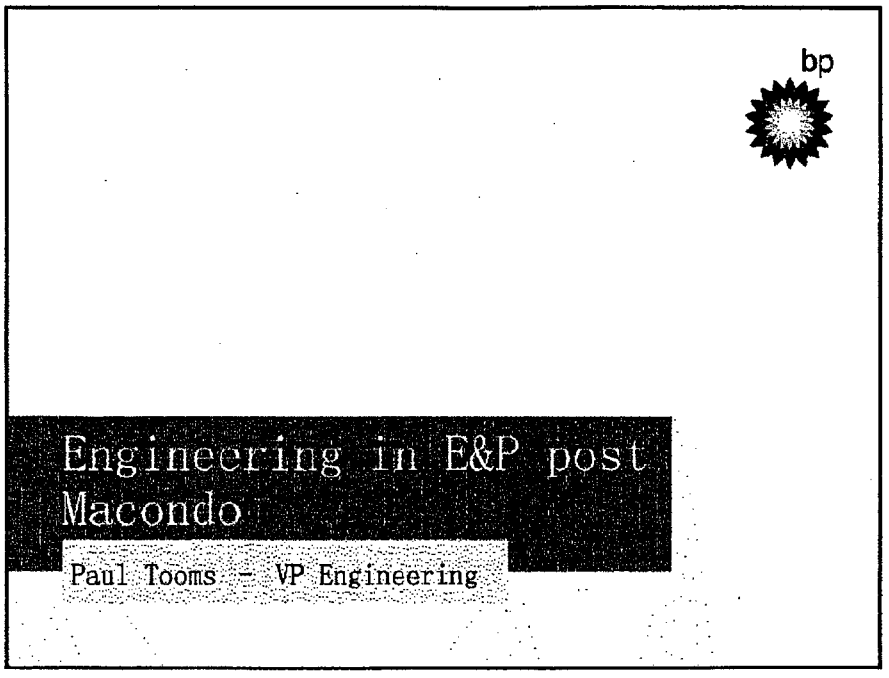


Engineering in E&P

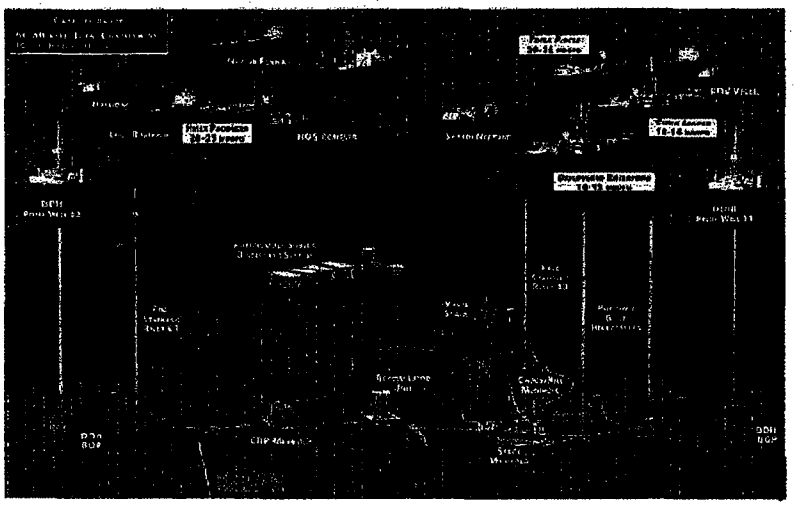
- Continue to follow the strategy and plan as laid out in Malta, re-inforced in Boston. Sharing -> Learning.

+

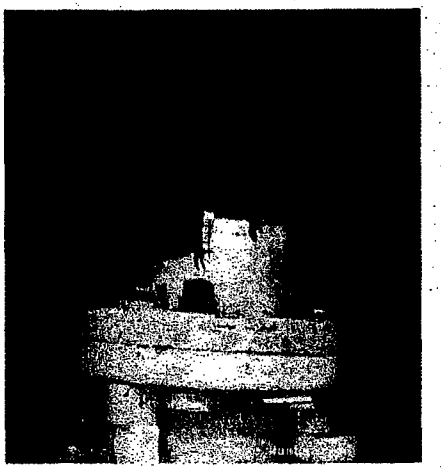
- Our biases
  - Make engineering in BP simple, reliable and effective
  - Engineer with rigour
  - Engineers to have impact
  - Engineering Authorities make the tough calls

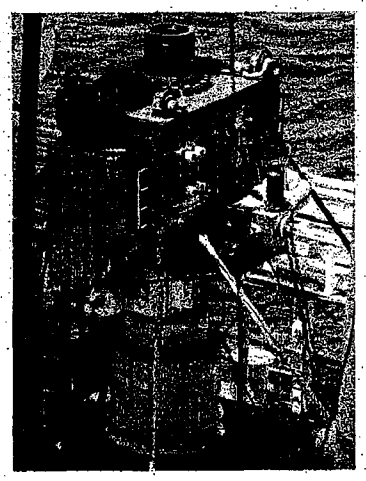
Containment: Mid July Onwards

Capacity 60– 80 mbd



Decomplexifying
- the capping stack





The need for Engineers to have impact
– quotes from FT on July 16

bp

The US government on Monday allowed BP to extend for 24 hours the containment cap shutting off the leak from the Macondo well

But US officials were quick to point out that it was up to them, not BP, whether the cap could stay in place.

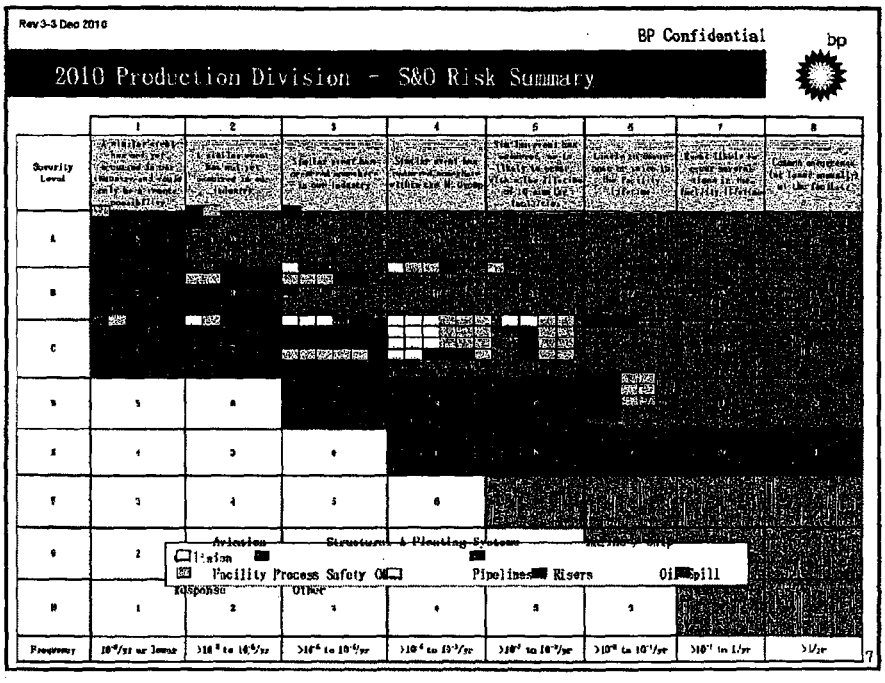
Engineers had Impact

I was honored to have had the opportunity to work with and get to know all of you …. Inspired by your engineering team, with whom we worked with so closely …….. Best Regards,

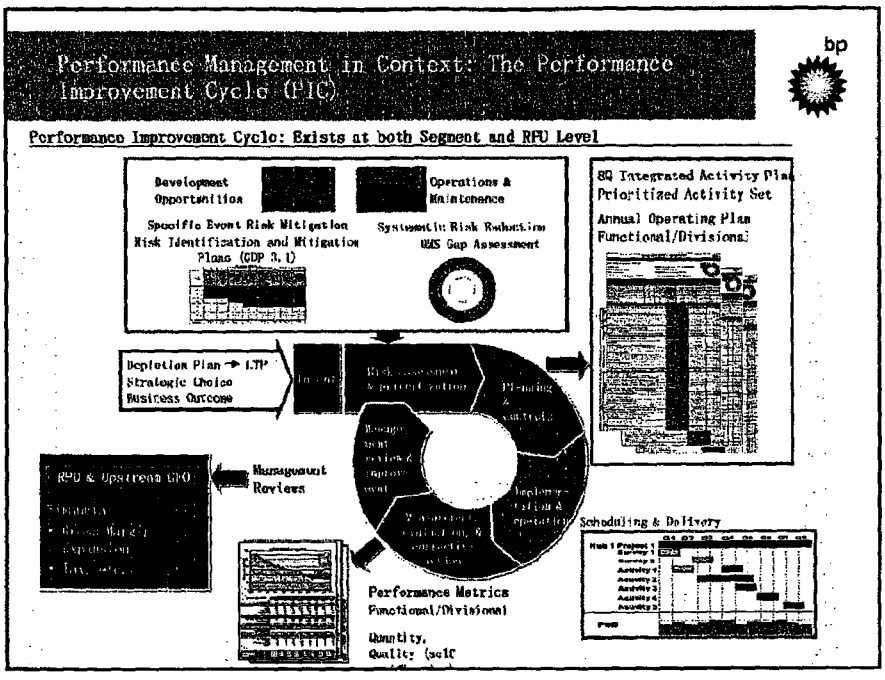
Margie Tatro - Sandia National Laboratory

On a personal note, I wanted to share my observations on the overall quality and extreme 'competence' of your entire staff during my connection to this activity. Their technical integrity and professionalism should be a source of pride to you and your staff

Rob Sharpe - Lawrence Livermore National Laboratory


Rev 3-3 Dec 2010
BP Confidential
bp
2010 Production Division - S&O Risk Summary
Severity Level
Facility Process Safety
Pipelines
Risers
Oil Spill
Frequency

BACK UP


Performance Management in Context: The Performance Improvement Cycle (PIC)
bp
Performance Improvement Cycle: Exists at both Segment and RPU Level
Development Opportunities
Operations & Maintenance
Specific Event Risk Mitigation
Risk Identification and Mitigation Plans (CDP 3.1)
Systematic Risk Reduction
HSE Gap Assessment
8Q Integrated Activity Plan
Prioritized Activity Set
Annual Operating Plan
Functional/Divisional
Depletion Plan → LTP
Strategic Choice
Business Outcome
RPU & Upstream GPO
Management Reviews
Performance Metrics
Functional/Divisional
Quantity,
Scheduling & Delivery

Simple, reliable, effective Engineering in BP

- Reduce / Avoid complexity
  - Simple elegant solutions are generally inherently safer
  - "Decomplexify"
- Remove buried conservatism
  - One engineers extra margin leads to another's design challenge
  - Compounded conservatism leads to risks
- Develop & Apply appropriate standards
  - Thoughtful interpretation of RTPs
  - Challenge can be appropriate
  - Retrospective application will be defined as needed

Engineers to have impact

- Equip our engineers with the tools to be effective & have impact
  - Interpersonal skills
  - Influencing skills
  - Leadership
  - Problem solving (incl. Sense making)
- Persuasion + logic are the favoured tools of an engineer
  - But they are rarely effective in changing views
- Operators should understand their process and safe operating limits
  - Engineers need to act as coaches

Engineering with Rigour

- Engineers must know the discipline, be able to do the maths
- Write it down in sentences
  - Reports, not PowerPoint
  - "bullets can kill"
- BP Engineers make the decision, not EPMS contractors
- We value individual expertise and judgement

Our Engineers will engender deep respect.

EA's

- EA's are the point at which the tough operational engineering decisions need to be taken
- EA's must be fully competent, confident able to exercise great judgement
- They must be valued by leadership (Divisional, Regional and Central)

Engineering Metrics

bp

- Segment Recommended Practice for Engineering Management - section 8.1, E&P Segment Engineering Tier 1 metrics