

Where's Mad Dog??

MTS Luncheon 5-22-03

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Floating systems lead

Mad Dog JV – BP / BHP / Unocal



talk outline - Mad Dog

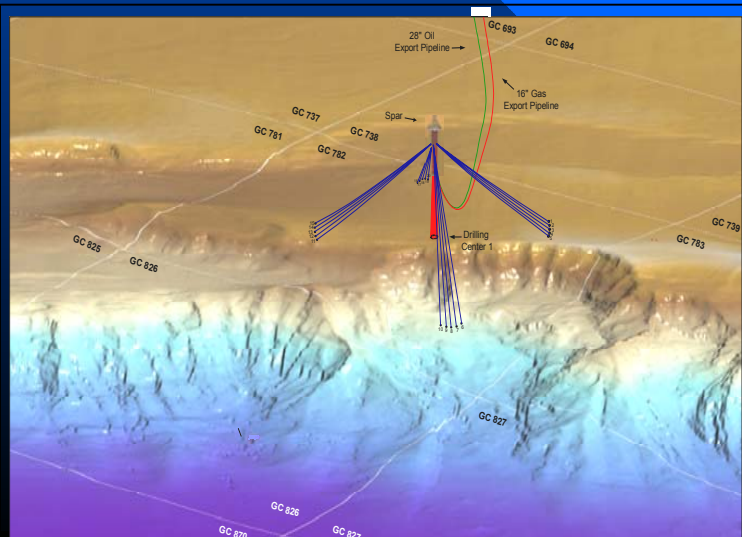
- **What?** – Neighborhood / objectives / play type / facilities' scope / organization / contracting
- **Where?** - Status
- **Future?** – Challenges / insights



neighborhood

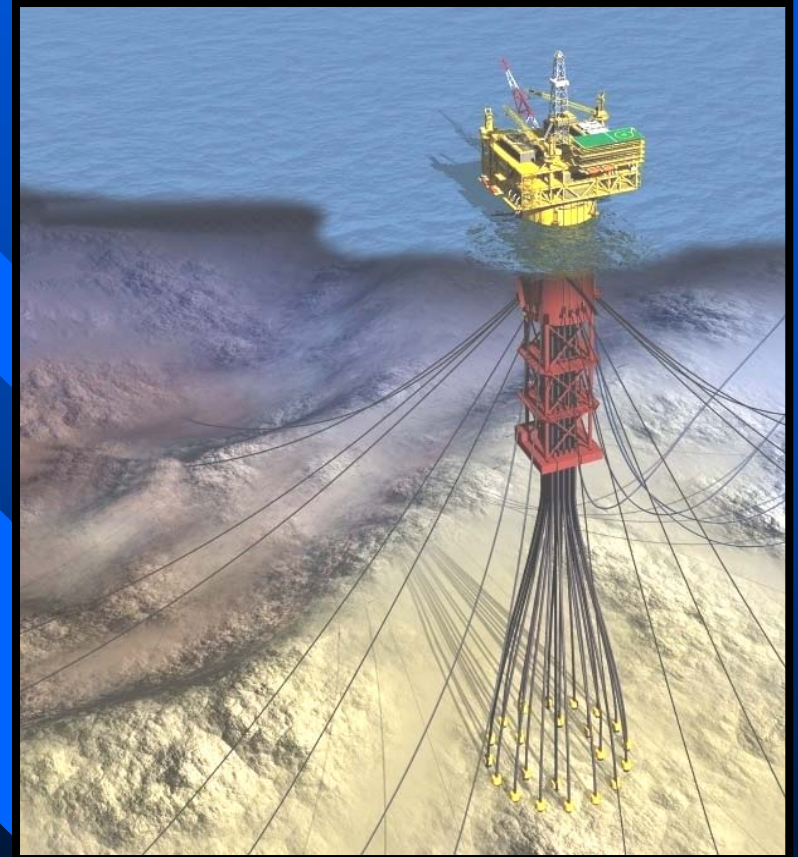


- GoM, southern GC
- Tie-in to Mardi Gras SGC export system
- Near Holstein
- On the Sigsbee escarpment
- 4,500'wd at wellheads
- Loop current prone



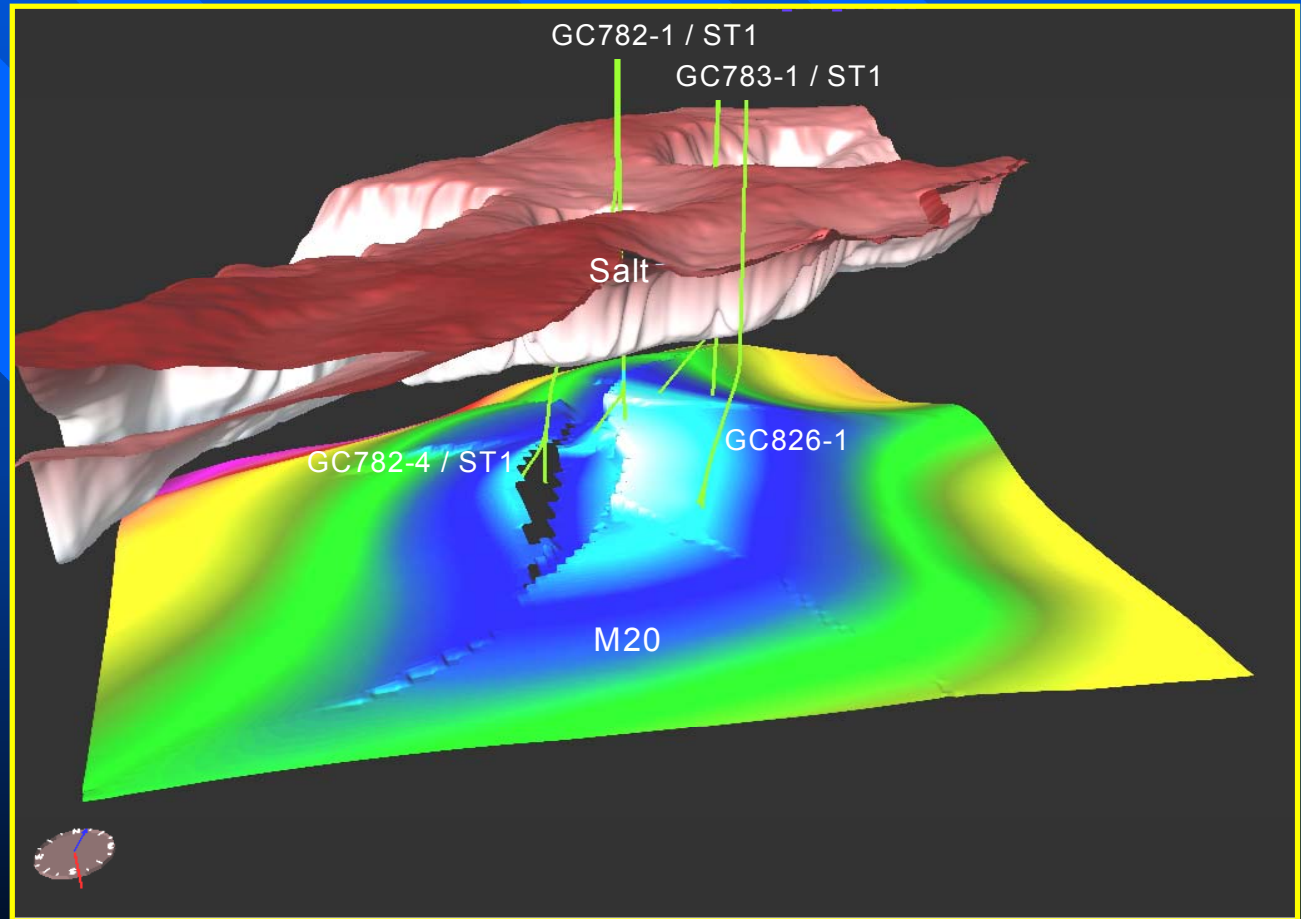
project objectives

- No harm to people or the environment
- First oil in 4Q '04
- Production efficiency > 90%
- Production throughput > 90 mbd



play type

- Subsalt
- Faulted
- Low GOR
- 'futures' potential
- 12 initial wells
- 4 pre-drills

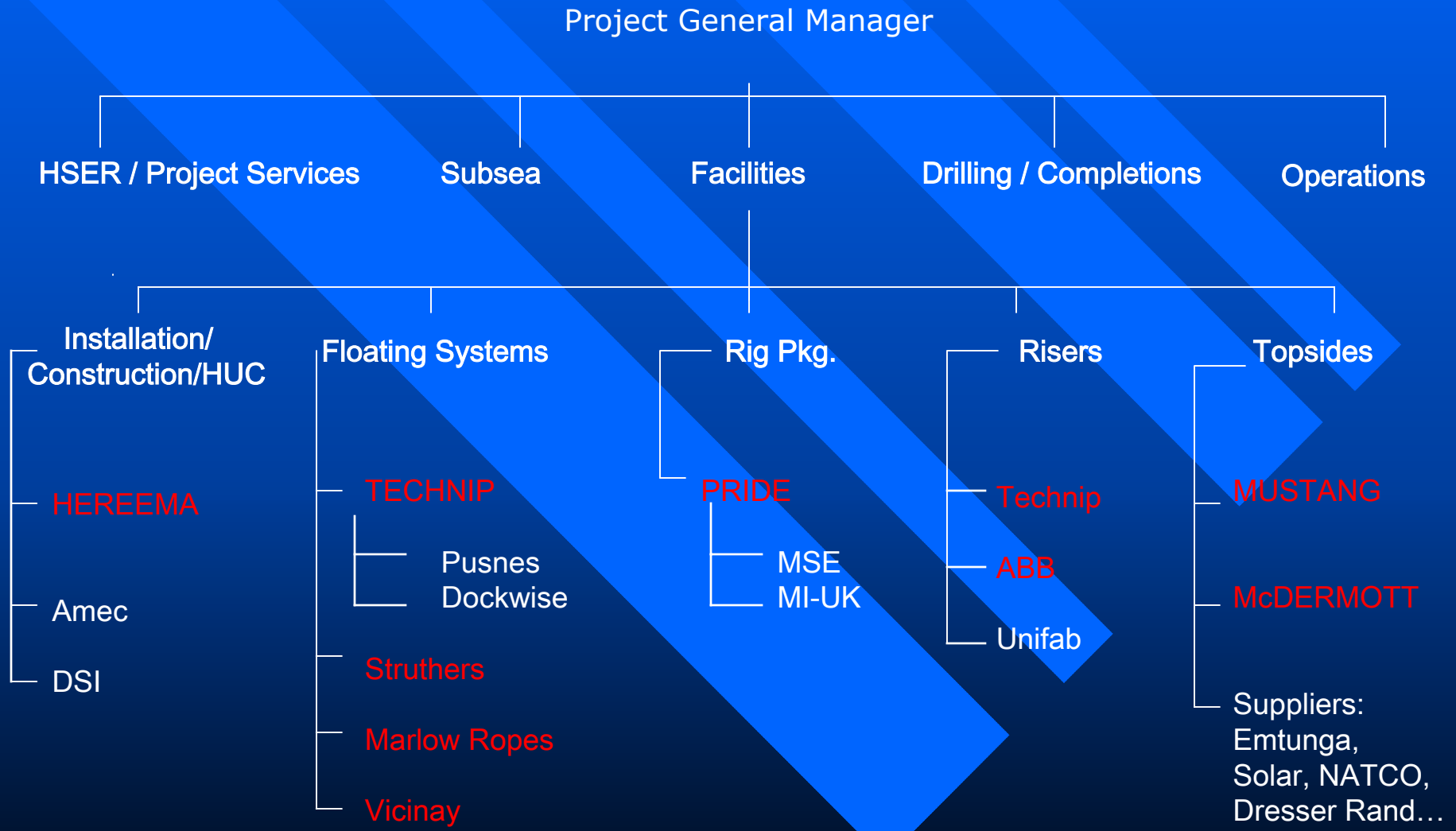


facilities' scope

- Dry-tree PDQ 16-slot truss spar, 128' dia
- ~90mbd, 40mmscfd throughput, 126 POB
- Space/weight for 'future' production
- Single transport hull (MS1)
- Buoyancy canned risers, 13' dia x 220' (Balder)
- Single lift deck (Thialf)
- 5,000 HP drilling rig (Thialf)
- 4Q 04 1st oil target



organization / contracts



contracting

- BP 'frame agreements' were awarded early predicated on
 - Limited industry capacity, due to high industry demand on key players
 - High BP demand, using common development systems
 - Competitive bidding, generic pricing
- Successful contractors are experienced and capable

status 5/03

- **HSE Overall - DAFW 0, 1.8mm manhours, TRIR 0.98**
 - Contractor managed sites: 1.2mm manhours, TRIR 1.01
 - BP managed sites: 0.6mm manhours, TRIR 0.93
- Drilling 3rd pre-drill with Ocean Confidence
- Engineering
 - Topsides 75%
 - Hull & Moorings 80%
 - Risers 70%
 - Rig 50%
- Fabrication / Manufacture
 - Topsides 25%
 - Hull & Moorings 45%
 - Risers 15%
 - Rig 35%
- Installation – Suction piles 11/03; hull 2/04; topsides & rig 5/04

Hull Fabrication - Pori, Finland



Hull Fabrication - Pori, Finland



H2 Upper Move



H2 Upper Move



H2 Upper Move



H2 Upper Moved For Lifting

Hull Fabrication - Pori, Finland



H2 Lower with Riser Guide

H3 & H4 At Rails



Suction Pile Fabrication

Struthers/Irby - Gulfport, MS



P1 Top Can Section

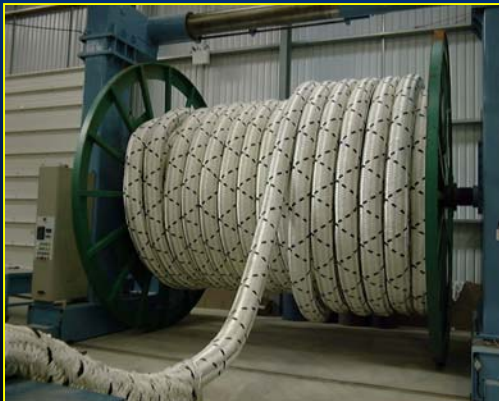


Girth Seams Being Welded



P3 Pile Section Being Welded

Marlow Ropes Coatbridge, Scotland



Chain Jack & Fairleads Pusnes - Ardendal Norway

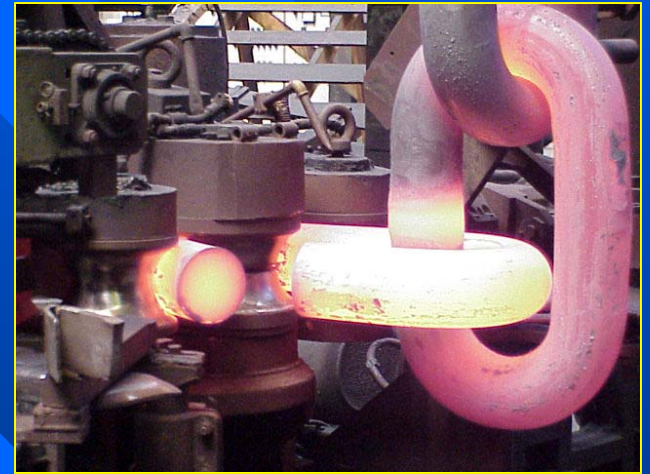


Chain Jack Guide Rollers

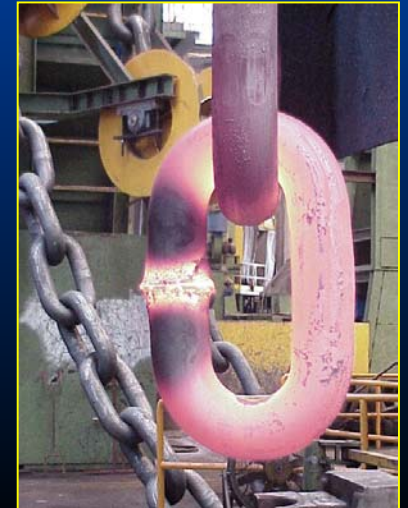


Fairleads

Chain - Vicinay Bilboa, Spain



Bending Chain Link



Welded Chain Link

Buoyancy Can Fabrication - Unifab New Iberia, LA



Topsides - J Ray McDermott Morgan City, LA



current challenges

■ Topsides

- Full onshore commissioning
- Cost creep management
- Change management

■ Hull & Moorings

- Timely completion of hull for mid-December sailaway
- Installation contingencies
- HSE

current challenges

■ Risers

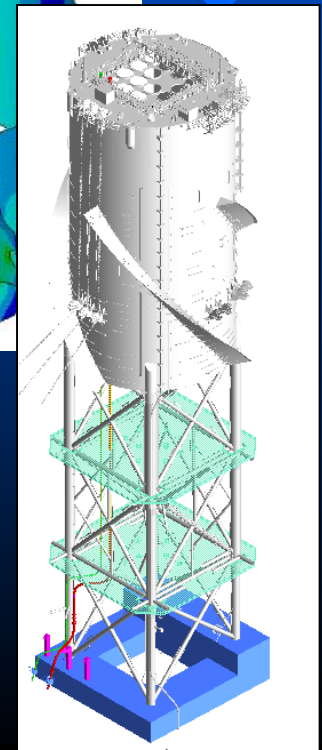
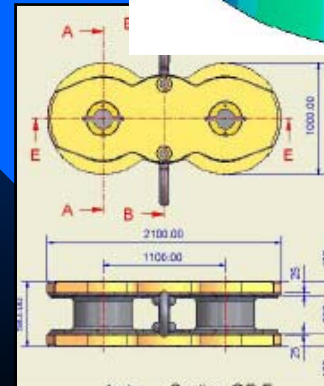
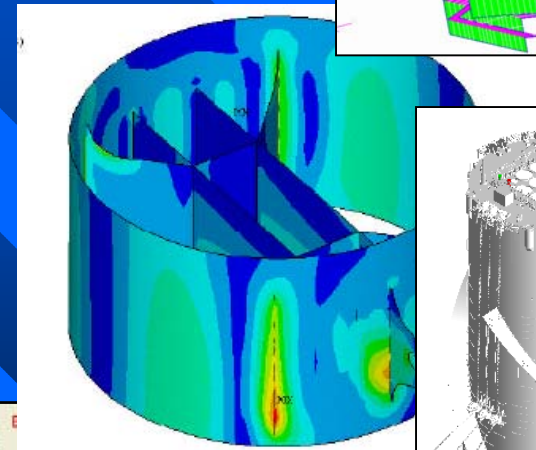
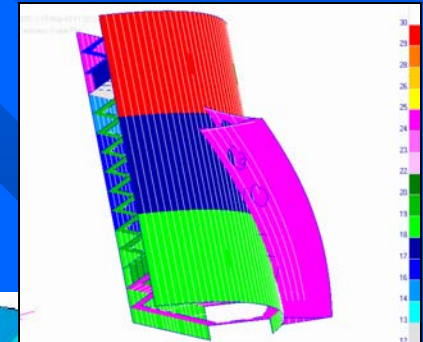
- Timely deliveries
- Interfaces
- Vendor stability

■ Rig

- Late start with GoM integration fabricator
- Allow time for full onshore commissioning, training

insights - 'new technology'

- Implement it only if it adds value
 - Poly ropes, allowing for single lift & single transport
 - Suction pile engineering
 - VIM work
 - Spool-based SCR connection
 - Transportation, offloading
 - Innovative mooring line, connectors
 - Buoyancy cans



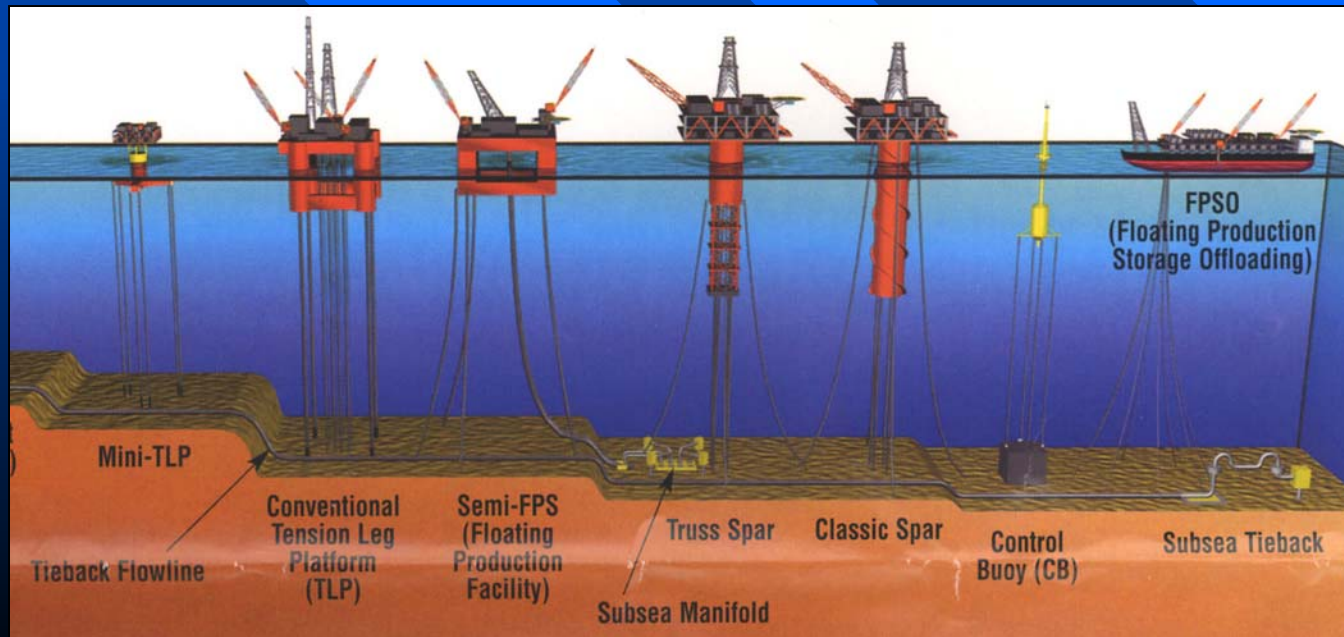
insights - organization

- An integrated, soup-to-nuts asset team works (subsurface to ops)
- A small, empowered delivery-based facilities team works
- 'Enabling' support is crucial (HSER, project services, legal, technology, document control, installation...)
- Early Ops involvement is necessary



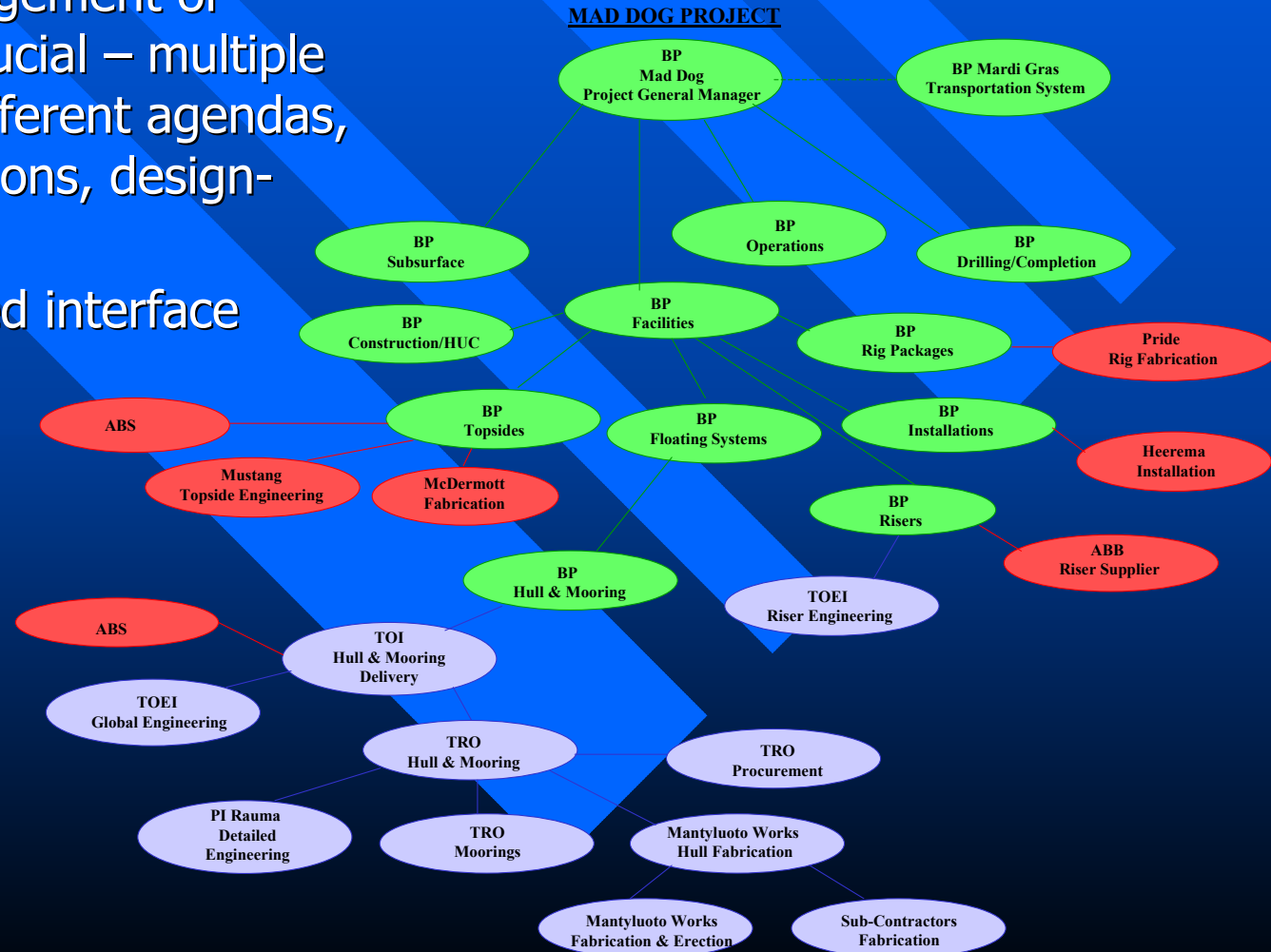
insights - concept selection

- Pick your partners
- Align as early as possible on subsurface interpretation & appraisal plans



insights - interfaces

- Effective management of interfaces is crucial – multiple contractors, different agendas, disparate locations, design-build work
- Use experienced interface engineers

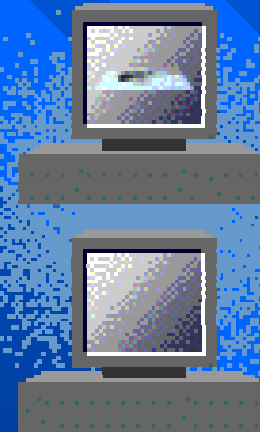


insights - cost control

- Stage-gate, with segmented AFE's
- Land at edge of cost 'step changes' where they make sense
- Lump sum with well-defined scope where possible
- Set aggressive cost targets, keep constant pressure on to lower costs
- Budget for currency changes
- Make & document decisions timely
- Rigorously exercise MOC



insights - document management



- Set document management processes and stick to them
- Make it web-based, accessible to all stakeholders

insights - weight control

- Set weight control processes and stick to them
- Set targets for each component
- Keep dieting
- Don't let go of reserve...make 'em pay



insights - HSE

- Set high expectations
- Define what degree of influence to apply
- Watch proactive indicators
- Get management buy-in, train if necessary
- Influence the high-graded issues, if culture change is needed but unattainable
- Don't rush; train workers in hazards recognition
- Hold contractors accountable for safety



*~ on track &
breathing hard!!*

