From: Olsen, Asbjorn (Stavanger) Sent: Monday, May 17, 2010 10:22 PM

To: Turlak, Rob (Houston)
Cc: Leach, Gary (Houston)
Subject: FW: BOP on BOP Plan

**Importance:** High

Attachments: image004.gif; image005.gif

Rob

Some general comments from me

lain needs a plan, so I am trying this for a start

1. Identify equipment and time required to fit 2 x Valves plus Subsea Choke on the DD II BOP, these to be ROV Controllable and not hooked into the BOP Control System.

## FSV double block available

- 2 days

Pipe work from FSV to Choke & Pipe w/hub on discharge side needs to be produced

- 4 days to source and build pipe work needed c/with hubs

Choke needs to be sourced through Cameron

- 4 days to source and make ready (overhaul)

ROV Control System to be designed and build

7 days to design, build and test

Assemble all components, pressure test, ship

2 days

Ship and install on the rig - 3 days

TOTAL OF ~ 12 DAYS

2. Identify equipment and time required to fit above assembly with hub at end of pipe on to the Capping Stack with additional Ram plus leg of  $2 \times \text{valves plus vent pipe/hub}$ .

FSV double block available X 2

- 2 days

Pipe work from FSV to Choke & Pipe w/hub on discharge side needs to be produced. Including pipe off fail safe to vertical hub

- 5 days to source and build pipe work needed c/with hubs

Choke needs to be sourced through Cameron

- 4 days to source and make ready (overhaul)

ROV Control System to be designed and build

8 days to design, build and test

Assemble all components, pressure test, ready to ship

2 days

Split current stack and install single ram + HC connector down and pressure test

4 days

FAT and commissioning - 1 DAY

Ship to rig - 1 day

TOTAL OF 12 - 14 DAYS

i am sure I missed quite a few things. Can you in any case please review and let me know

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am I in the ball park? Option No 2 is more complex, requires more testing and will take more time

These numbers are also in my opinion not a very conservative case. It am sure we will need this time, so selling something much less is "risky"

Comments are appreciated

regards

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2. Identify equipment and time required to fit above assembly with hub at end of pipe on to the Capping Stack with additional Ram plus leg of 2 x valves plus vent pipe/hub.

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