

**From:** Curtis, Charles [Charles.Curtis@c-a-m.com]  
**Sent:** Monday, May 31, 2010 2:12 PM  
**To:** Schwebel, John; Cameron, Dave (Aberdeen)  
**Cc:** Smith, Trevor (GOM DWD); Turlak, Rob (Houston)  
**Subject:** RE: Thanks For the Good Work BOP on BOP and Capping Stack Team

**Attachments:** 3 Ram Capping Stack Running Procedure May 2010.doc; image001.gif

John,

What time would you want to meet?

Attached is a copy of the running procedure we had work on, but not completely finished. Should not take must to complete.

Thanks,

Charlie

Charles E. Curtis Jr.

Product Manager

Drilling Systems

cid:image001.gif@01CB00A1.1F7AD770

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**From:** Schwebel, John [mailto:John.Schwebel@bp.com]  
**Sent:** Monday, May 31, 2010 9:00 AM  
**To:** Curtis, Charles; Dave.Cameron@deepwater.com  
**Cc:** Smith, Trevor (GOM DWD); Turlak, Rob (Houston)  
**Subject:** RE: Thanks For the Good Work BOP on BOP and Capping Stack Team

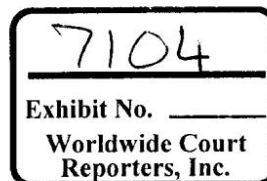
Dave,

Does Transocean have an installation/running procedure for running this assembly connected to the Flex Joint Overshot?  
Can we meet today to go over this so you can understand our thoughts on what is happening?

Thanks,

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TRN-MDL-00867277



TREX 007104.0001

John

From: Curtis, Charles [<mailto:Charles.Curtis@c-a-m.com>]  
Sent: Sunday, May 30, 2010 4:44 PM  
To: Schwebel, John; Dave.Cameron@deepwater.com  
Cc: Smith, Trevor (GOM DWD); Turlak, Rob (Houston)  
Subject: RE: Thanks For the Good Work BOP on BOP and Capping Stack Team

John,

Attached is a photo of the Capping Stack this morning May 30, around 11:00 AM. The Capping Stack has gone as far as we can, all

of the equipment is stacked up and only waiting on the Control Panels from Oceanineering, to test the Stack. These Panels should

be completed by Tuesday, June 1, shipped to Cameron Berwick, hook up and tested with the 3 Ram Capping Stack. Completion

date ready to ship offshore Friday, June 4.

Will have a better up date tomorrow, on the Control Panels.

Regards,

Charlie

Charles E. Curtis Jr.

Product Manager

Drilling Systems

cid:image001.gif@01CB00A1.1F7AD770

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From: Schwebel, John [<mailto:John.Schwebel@bp.com>]  
Sent: Sunday, May 30, 2010 3:03 PM  
To: Curtis, Charles; Dave.Cameron@deepwater.com

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TREX 007104.0002

Cc: Smith, Trevor (GOM DWD)  
Subject: RE: Thanks For the Good Work BOP on BOP and Capping Stack Team

Dave/Charles,

Can you give us an update on the 3 Ram capping stack with respect to schedule?

Thanks,

John

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From: Wellings, James S  
Sent: Sunday, May 30, 2010 2:33 PM  
To: Schwebel, John; Blue, Mike (Houston); O'Bryan, Patrick L; Smith, Trevor (GOM DWD); Franklin, Bob; Charles Curtis (charles.curtis@c-a-m.com); Fleece, Trent J; Frazelle, Andrew E; Heironimus, Mark B (LEWCO INTEGRATED TECH SYSTEMS); Girlinghouse, Kerry (UNKNOWN BUSINESS PARTNER); Kidd, Gavin N; Roberts, Chris A (Frontline Group); Simpson, Richard; Wellings, James S

Cc: Gray, George E  
Subject: Thanks For the Good Work BOP on BOP and Capping Stack Team

BP has decided to go another route and will not be doing the BOP on BOP for awhile. Eventually I think a BOP will have to be put on the Horizon lower BOP to clean out the well (after kill operations). All the good work you guys did will not go for naught. I am moving on to the Q4000 Team to set up for short term flaring operations so we will be disbanding the BOP on BOP team for now. Thanks again for the hard work and long hours of coming up with a brilliant plan and inspired contingencies.

David Cameron, Rob Turlak and Charles Curtis, BP would still like the option of the three ram capping stack for deploying a flex joint overshot or a subsea tree. Can you guys see this through completion and testing with Charlie? Keep me advised of the progress. I will be working 12 hr shifts down on the 3rd floor and will send you my schedule.

Jim Wellings

Wells Team Leader

bp GoM Drilling and Completions

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### 3 Ram Capping Stack Running Procedure

#### Procedure:

To run the 3 Ram Capping Stack onto the Deepwater Horizon Lower BOP Stack after the successful removal of the LMRP and a reduced or low flowrate from the BOP has been noted.

#### Assumption:

Assumption is that the following operations are being carried out through the Secondary (Aft) Rotary on the Discoverer Enterprise.

#### Preparation:

1. Ensure the Discoverer Enterprise is at the Safe Handling Area.
2. Ensure all PTW for HP Testing and Overside work are prepared in advance.
3. Ensure surface pressure test of the 3 Ram Capping Stack has been completed. This will take place at CIW site onshore prior to dispatch of assembly offshore.
4. Full function test of the 3 Ram Capping Stack to be performed using the hot-line and ROV stab for function testing the Rams, Failsafe valves and the HC Connector. The ExF H4 Connector function test will use the accumulator bottles fitted to the perforated riser joint. Ensure function volumes and response times for each function have been recorded:
  - a. Lower Ram Close / Open
  - b. Middle Ram Close / Open
  - c. Upper Ram Close / Open
  - d. Vetco H4 Connector Latch / Primary Unlatch / Secondary Unlatch
  - e. Cameron HC Connector Latch / Primary Unlatch / Secondary Unlatch
  - f. Choke Failsafe Valves #1 and #2 Open / Close
  - g. Kill Failsafe Valves #1 and #2 Open / Close

*NOTE: All pressure testing and function testing to be witnessed by Transocean / BP / MMS ???*

*Primary hydraulic supply for the Vetco H4 Connector will be from the marine riser mounted accumulators, secondary supply will be from ROV hot stab.*

*Primary hydraulic supply for CIW HC Connector will be from the seabed mounted accumulator bank.*

*Primary hydraulic supply for the 3 Rams and the Failsafe Valves will be from the seabed mounted accumulator bank with flying lead to ROV stab-in panel.*

*Secondary hydraulic supply for the Lower Shear rams and the Failsafe valves used if well bore venting to the seabed mounted manifold will be with the ROV pump and stab-in panel.*

5. Ensure the electronic position indicator assembly for alignment with DWH Lower BOP Mandrel has been installed on the perforated marine riser joint.
6. Ensure IWOCs control hose bundle securing clamps to Marine Riser C & K lines and the 6 5/8" S135 drillpipe are available.
7. Ensure that the 7 5/8" Reg. Box connection on the Manual HMF-F Riser Handling Tool has been inspected and is ready for use.
8. Ensure the Rotary Table Elevation to the top of the DWH Lower BOP Mandrel is known and space-out figures for the 3 Ram Capping Stack deployed on 6 5/8" Drillpipe are prepared in advance.
9. Ensure the 75' long perforated riser joint has been made up to the X-over flange (HMF F x API 15K).
10. Ensure the 'solid' nose ring has been fitted to the base of the Manual HMF-F Riser Handling Tool.
11. Prepare a double (2 joints) of 6 5/8" Drillpipe in the mousehole with a Side Entry Sub, a non-return valve and a previously tested 'Closed TIW Valve' made up to the lower connection and a x-over to 7 5/8" Reg Pin (to fit the upper connection of the Manual HMF-F Riser Handling Tool). NOTE: Also consider a 'non ported float' in Drillpipe.
12. Prepare the 100' long (2 x 50' lengths of 2" cement hose) hose section with a x-over to a CIW Mini-Collett Connector. How to operate mini-collett connector???



### 3 Ram Capping Stack Running Procedure

#### Preparation continued:

NOTE: The side entry sub, 2" cement hose and CIW Mini-Collett Connector will be used for pumping Glycol through the Kill Failsafe Valves during alignment of the 3 Ram Capping stack and prevent the formation of 'hydrates'.

13. Ensure dual resilient seal AX gaskets are available onboard for installation into the CIW HC Connector, paint the ID of AX gasket yellow and black stripes for easy identification under ROV observation.

#### Procedure:

1. Prepare surface handling equipment for running marine riser.  
NOTE: Use the Manual HMF-F Riser Handling Tool fitted with the 'solid nose ring' assembly.
2. Pick up the 75' long perforated marine riser joint and RIH with same. Install the Accumulator bank and ROV panel to the perforated riser joint. Pick up joint clear of spider on completion of fitting the accumulator bank.
3. Pick up the Vetco H4 Connector and x-over sub to the rigfloor, make up same to the perforated riser joint, torque the HMF F flange bolts to XXXlbs torque.
4. Pick up the assembly of double (2 joints) of 6 5/8" Drillpipe, Side Entry Sub, Closed TIW valve and X-O to 7 5/8" Reg Pin from the mousehole and make up same to the upper connection of the Manual HMF-F Riser Handling Tool.
5. Pick up the double of 6 5/8" Drillpipe and the Perforated Marine Riser joint clear of the rotary table. Note weight in air of this Riser/6 5/8" Drillpipe.
6. Remove the riser spider and install the rotary table bushings etc...
7. Skid the 3 Ram Capping Stack on the handling cart to the Aft Well Centre in the Moonpool.
8. Hook up IWOCS control hose bundle to provide hydraulic control of H4 Connector, pressure up the H4 Connector 'Unlock' function with 1500psi.
9. Lower and latch up the Vetco H4 connector to the top of the 3 Ram Capping Stack, confirm indicator rod moves to fully Locked position.
10. Pick up and record overall weight of 3 Ram Capping Stack plus first Landing String stand in air. XXXlbs.
11. Hook up IWOCS control hose bundle to provide hydraulic control of H4 Connector, pressure up the H4 Connector 'Lock' function with 1500psi.
12. Hook up the 2" cement hose to Kill side failsafe valves of the 3 Ram Capping Stack using the CIW Mini-Collett connector. Hook up other end of the 2" cement hose to the Non Return Valve / Side Entry Sub – include support for the cement hose.
13. Ensure clear communication between winch operator for IWOCS hydraulic reel and Driller before RIH with Dual Ram Capping Assembly.
14. Unlatch the HC Connector at base of 3 Ram Capping Stack and pick up the assembly clear of the test stump. Install a dual resilient seal AX gasket into the CIW HC Connector – gasket painted with yellow and black stripes for easy identification using ROV observation.
15. Skid the test stump clear of the 3 Ram Capping Stack.
16. Commence running first stand of Landing String, simultaneously reeling out IWOCS umbilical and land Drillpipe in slips. Secure umbilical to Drillpipe at Moonpool Level.
17. Continue RIH on 6 5/8" Drillpipe as per space-out tally – topfill string on RIH.  
NOTE: Ensure clear communication between IWOCS reel operator and the Driller while RIH.  
NOTE: Driller to ensure that the string does not rotate during make up and running of 6 5/8" Drillpipe.  
NOTE: Secure IWOCS Umbilical in Moonpool when string in slips.
18. Make up last stand to Topdrive and engage CMC, record the assembly weight at this point XXXlbs.
19. Check the elevations of DWH Lower BOP Mandrel and the 3 Ram Capping Stack using the ROV.
20. ROV to confirm the dual resilient AX seal has remained in the CIW HC Connector during deployment of the 3 Ram BOP Capping Stack.



### 3 Ram Capping Stack Running Procedure

#### Procedure continued:

21. Open both Kill side failsafe valves on the 3 Ram Capping Stack using the ROV hot-stab.
22. Line up to pump undiluted Glycol through the drillpipe, commence pumping at 3bpm to prevent hydrate formation during final alignment of 3 Ram Capping Stack over the DWH Lower BOP mandrel.
23. Skid the 3 Ram Capping Stack over the DWH Lower BOP Mandrel under ROV observation, confirm alignment using electronic position indicator assembly.  
*NOTE: There could be some additional movement of the assembly as the Dual Ram Capping Assembly passes into any discharge plume from the wellbore.*  
*NOTE: The electronic position indicator will be used to assist in alignment / rig positioning over the DWH Lower BOP mandrel during this period of reduced visibility.*
24. Clear communication link is required between Driller and the ROV during the next critical alignment stages.
25. Lower the 3 Ram Capping Stack onto the DWH Lower BOP Mandrel.
26. Slack off a maximum of 25K lbs of string weight (drillpipe to remain in tension during all slack off operations).
27. ROV to confirm the HC Connector is fully engaged onto the DWH Lower BOP Mandrel.
28. ROV to engage hot-stab from the seabed mounted accumulator bank into the 3 Ram Capping Stack ROV panel.
29. ROV to 'Lock' the 3 Ram Capping Stack HC Connector with 3000psi.
30. ROV to confirm HC Connector indicator rod has travelled to the Lock position.
31. Perform pick up test to 50K over the assembly weight recorded in step 16 above.
32. Reduce the hydraulic locking pressure to the HC Connector to 1500psi (standard CIW procedure).
33. ROV vessel to install the Coflexip hose from the seabed venting manifold to the Choke side failsafe valves on the 3 Ram Capping Stack. Confirm the seabed venting manifold Choke is in the full Open position.
34. Stop pumping undiluted Glycol through the drillpipe, ROV to Close the Kill side failsafe valves on the 3 Ram Capping Stack.
35. ROV to Open the Choke side failsafe valves / lining up to vent through the seabed venting manifold.
36. Position the ROV at the Perforated Marine Riser Joint monitoring discharge plume.
37. Close the Middle Shear Rams on the 3 Ram capping Stack with a minimum of 1500psi using the seabed accumulator bank attached to the ROV hot-line panel – record volume pumped and confirm if discharge plume has reduced / stopped as a result of closing the Lower Shear Rams.
38. Close the Upper Shear rams on the 3 Ram Capping Stack with a minimum of 1500psi using the IWOCs hydraulic supply – record volume pumped.
39. Ensure both Shear Ram Close hydraulic isolation valves are 'Closed' before disconnecting the seabed accumulator bank hydraulic supply.  
*NOTE: This is to 'lock-in' closing pressure to both Shear Rams prior to unlatching the H4 Connector.*
40. ROV to confirm clean, gas-free returns from the perforated riser joint.
41. Monitoring of seabed manifold pressure will indicate if the Choke on the seabed venting manifold requires to be closed slightly – maintain pressure range between XXX – XXXpsi using the seabed manifold Choke.
42. ROV to remove the CIW Mini-Collett Connector from the Kill side failsafe valves on the 3 Ram Capping Stack.
43. Adjust the string weight to XXXlbs which will be XXXlbs overpull on the Vetco H4 Connector.
44. Unlatch the H4 Connector with a minimum of 1500psi using the ROV hydraulic supply. Confirmation of the connector unlocking will be the CMC actuating and stroking up.
45. POOH with the 6 5/8" drillpipe assembly until the H4 Connector is at surface / moonpool level.  
*NOTE: Ensure clear communication between IWOCs reel operator and the Driller while POOH with drillpipe.*  
*NOTE: Drillpipe will be 'wet' during POOH due to 'Closed TIW' valve at base of string.*
46. Disconnect the IWOCs hydraulic control hose bundle.
47. Remove the 2" cement hose from the Side Entry Sub.
48. Install the marine riser spider into the Aft rotary table.

### 3 Ram Capping Stack Running Procedure

**Procedure continued:**

49. Pick up and land the 'perforated' marine riser joint upper connection into the riser spider.
50. Break the connection between the 7 5/8" Reg x-over sub and the upper connection on the Manually operated marine riser running tool.
51. Rack the assembly of double (2 joints) of 6 5/8" Drillpipe, Closed TIW valve and X-O to 7 5/8" Reg Pin within the mousehole.
52. Pick up the 'perforated' marine riser joint until the accumulator bank can be removed from the riser joint at rig floor level.
53. Pick up until the H4 Connector is above the rotary table.
54. Remove the riser spider and install the bushings etc... into the rotary table.
55. Land out the H4 Connector in the rotary table and break the connection to the 'perforated' riser joint.
56. Lay out the 'perforated' riser joint.
57. Lay out the H4 Connector clear of the rotary table.
58. Remove the 'solid' nose ring from the base of the Manually operated marine riser running tool.
59. Lay down the double of 6 5/8" drillpipe, the 'Closed' TIW valve, side entry sub, non-return valve and the 7 5/8" Reg x-over sub.

**NOTE: Operation of the Choke side failsafe valves and the Lower Shear Rams on the 3 Ram Capping Stack is with an ROV only.**