

From: Kelley, Merrick M [Merrick.Kelley@bp.com] 6/24/2010 2:47 PM
To: Kelley, Merrick M; Boughton, Geoff (Houston); Holman, Lawrence (Houston); William.Stringfellow@deepwater.com; Fry, Michael (Houston); Hand, Steve (Houston); ray.picard@deepwater.com; Ellis, Gary G (SWIFT TECHNICAL SERVICES); Skidmore, Ross R (SWIFT TECHNICAL SERVICES); Van Lue, Jason; Erwin, Carter; Stoltz, Dan; Holt, Charles A; Hughes, John D; King, Don; Schilling, David A.; Waligura, Jason (AEA, LP); Bortka, Nicholas G; Fleece, Trent J; Fowler, Mike R; Chastain, Jonathan; Saucier, Lynn (Orbis); Tappin, George W; Discover Enterprise; jeff.jones@deepwater.com; Whitby, Mel; LeNormand, William
Cc: Ward, Michael D; Kelly, William G; Castrillon, Maritza
Bcc:
Subject: REQUEST : Attend Blue Pod Recover Procedure Review at bp office
Attachments: 4243_MC252-1_BluePodRecovery_RevB.doc

Men

Please find attached the updated procedure based on the comments I have received. Because this is a repeat of a previously executed procedure, a formal HAZID is not required, however, I think it is prudent to do a line by line review of the procedure with the office based personnel from all parties.

The review will take place tomorrow from 9-11 am in Westlake 4. I will sent out the room number once it is confirmed. Appreciate the help so far and we can spend some time at the end discussing any logistical or outstanding items that you may have.

Thanks

Merrick

<<4243_MC252-1_BluePodRecovery_RevB.doc>>

Maritza

Can you please book one of the large conference rooms for tomorrow 9-11 am on the 5th floor if available and let me know. This is a procedure review for the IMT effort.

Thanks

Merrick Kelley

Subsea Wells Team Leader

CDO-GoM Subsea Developments

Office:281-366-7188

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From: Kelley, Merrick M

Sent: Saturday, June 19, 2010 1:15 AM

To: 'Boughton, Geoff (Houston)'; Holman, Lawrence (Houston); William.Stringfellow@deepwater.com; 'Fry, Michael (Houston)'; Hand, Steve (Houston); 'ray.picard@deepwater.com'; Ellis, Gary G (SWIFT TECHNICAL SERVICES); Skidmore, Ross R (SWIFT TECHNICAL SERVICES); 'Alan Krennek'; 'Van Lue, Jason'; 'Erwin, Carter'; Stoltz, Dan; Holt, Charles A; Hughes, John D; King, Don; Schilling, David A.; Waligura, Jason (AEA, LP); Bortka, Nicholas G; Fleece, Trent J; Fowler, Mike R; Chastain, Jonathan; Saucier, Lynn (Orbis); Tappin, George W; Discover Enterprise; 'jeff.jones@deepwater.com'; 'mel.whitby@c-a-m.com'

Cc: Ward, Michael D; Kelly, William G

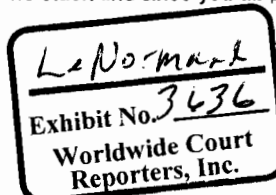
Subject: FYI and REQUEST : Objective and Equipment Availability for using Blue Pod to Operate BOP stack

<< File: Blue Pod Operation Scope.ppt >>

Men

Hope everyone is doing well and able to find some time to relax. The purpose of this email is to inform you that a decision has been made to recover the blue pod on the Horizon BOP stack, make necessary repairs, perform some investigation work, set up the pod with a wet mate connection system and redeploy to the stack and since you all played a critical role in the previous yellow

Confidential



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pod I want to enlist your help again.

The attached slide pack is just a work up of some of the issues I am thinking about as well as a cartoon scope of supply drawing to try and help identify all of the critical pieces of equipment, the first request I have of you all is to view the first slide and see if I have left off any critical piece of equipment and let me know what I have missed.

Background

In order to meet the requirements of redundancy in the containment systems that are being deployed, we have identified the blue pod as necessary to meet our objective for control of the BOP stack. I have no idea which vessel will potentially be hooked up and controlling the pod in any of the scenarios but I want to ensure we have all the equipment in place to achieve this requirement.

Plan

Pull blue pod from Discoverer Enterprise via drill pipe or winch. Perform re-work and deck test of equipment onboard the Enterprise and re-run the pod complete with the wet mate system so when the time is necessary, the appropriate vessel can gain control of the blue pod. I realize that there are several issues that need to be worked before confirming we will do this from the Enterprise but I wanted to try and lay some ground work on this in hopes we can be aware of and assist with the concerns associated with performing this operation on the Enterprise.

We will continue to operate the yellow pod from the Q-4000 in the current manner we have been. If/when we have a disconnect or pod failure, we will recover the yellow pod and also employ the wet mate connection system and re-run. Again, main objective is redundancy in being able to control the stack because all long term containment solutions involve producing hydrocarbons through the choke and kill lines at this point.

Request to TOI, OIE and Cameron

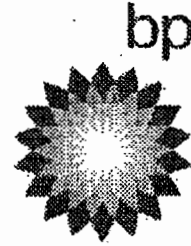
As you can all appreciate, it becomes necessary very early on to communicate a workable schedule to help facilitate the plan. As such, my second request to the group is to send me a list of equipment that you will be providing and list its status or availability. For example, if we have a mux cable already but need to still terminate the connector, I would like to know how long to get the connector, make the termination and test the assembly. I don't care what format you use to communicate this information so use whatever works best for you. I would appreciate having your list as best you know it by Monday noon. The other issue we need to address is people. I know that all resources are stretched so, as with the equipment, give me what you think is reasonable, don't over extend yourselves with an unrealistic timeline, but rather, one that you are comfortable you can meet or even improve on as we move toward the execution of this work.

Procedures

Like the first round of all of this, I will be responsible for generating all the procedures but I want to have your input through reviewing the documents and attending the HAZID reviews for these, we have executed some good work in our previous teams and we will continue to take this approach of all being on the same page and working together toward the common objective.

As always, I appreciate your help and expertise on conducting these operations and please don't hesitate to email me or call me with questions/concerns, all will be addressed and resolved.


Thanks
Merrick




Macondo
Clear Leader Containment
for
MC252-1
Blue Pod Recovery

RPIC APPROVAL:	_____	Date	Time:
B	6/24/2010	_____	_____
MMS APPROVAL:	_____	Date	Time:
	Print Name above	Sign Above	_____
CGIC (USCG) APPROVAL:	_____	Date	Time:
	Print Name above	Sign Above	_____

B	6/24/2010	Draft	Merrick Kelley
REV	DATE	DOCUMENT STATUS	PREPARED BY
PRINT DATE	11-Jun-08	FILE NAME	2200-T2-DO-PR-4243

Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	
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Amendment Record

Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	bp 
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
Rev	Date	Author	Description	Sec	Page
A	6/20/2010	Merrick Kelley	Draft		
B	6/24/2010	Merrick Kelley	Revised with bp and TOI comments		

TABLE OF CONTENTS

1	<u>Blue Pod Recovery</u>	4
1.1.	<u>Introduction</u>	4
1.2.	<u>Responsibilities</u>	4
1.3.	<u>Safety</u>	4
1.3.1.	<u>Topics of Concern</u>	5
1.3.2.	<u>Risks/Regrets/Mitigations</u>	5
1.4.	<u>Pull Blue pod with the Discoverer Enterprise (ENTERPRISE) MODU</u>	6

Attachments

None

Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	
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1 Blue Pod Recovery

1.1. Introduction

The near and long term containment plan requires functionality by hydraulic control of the choke and kill failsafe valves on the BOP stack. The secondary option to retain control of these valves is by replacing the blue pod on the DW Horizon's LMRP. The plan includes removal of the Blue POD, retrieval to surface to repair and test the POD.

1.2. Responsibilities

Safety is the responsibility of all personnel involved in any activities described in this document. Specific responsibilities of key personnel with respect to this procedure will be established and designated by each individual team.

Source Control Chief

Single Point Accountability	
Activity	SPA
Vessel Operations:	ENTERPRISE OIM
Vessel SIMOPS: On Scene Commander	ENTERPRISE OIM
BOP Operations – TOI	TOI Designee
ROV Operations	ENTERPRISE Oceaneering Crew

1.3. Safety

BP recognizes safety as a primary objective during work procedures. Therefore, the following safety instructions must be observed. During this work, if there is any doubt about the intent of this procedure, stop immediately and consult the designated manager.

Note: Individuals participating in the work described in this document must read and understand this document in its entirety prior to participating in the work.

Prior to the start of the job, the manager in-charge will hold a Pre-Job Safety Meeting

Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	bp
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with BP and other personnel (as necessary) involved in this operation to go through the entire job, following the step-by-step procedures in this document.

- All personnel must wear approved Personal Safety Equipment (PSE) such as a hard hat, eye/hearing protection, safety footwear, gloves, and so on at all times.
- Use approved safety harnesses for all elevated work. Use approved platforms, ladders, cages, scaffolding, and handrails.
- When working at heights, use safe practices for using hand tools to prevent dropped objects. For example, only use tools that are manufactured or adapted to provide tether attachment points, and make sure to tether the tool to the user or workplace. Tether attachments must still enable tool to be used effectively.

Table 1 – Safety Issues

Safety Issue	Prevention Tasks
Overhead Lifts	Verify personnel body position when recovering Blue POD to the Discoverer Enterprise
Pinch Points	Care taken when bringing POD onboard of the rig and transferring to the designated work location.

1.3.1. Topics of Concern


Table 2 – Tasks and Action Required

Safety Issue	Prevention Tasks
Job Safety Analysis (JSA)	Before implementing any installation procedures complete a JSA and discuss in-depth.

1.3.2. Risks/Regrets/Mitigations

Table 3: Risks and Mitigations

Risk	Regret	Mitigation
Vessel SIMOPS	Interference and potential interruption of operations.	SIMOPS managed by On Scene Commander.
Weather related issue	Difficulty in maintaining vessel station or deployment capabilities.	Temporarily halt operations and resume when weather appropriate.
Equipment issue	There are no equipment risks associated with this procedure. P/T readings currently are not available from either pod, this will remain the case after the pod is retrieved for repair and then redeployed.	n/a
Hydrocarbon issue	There is ZERO risk as it pertains to the discharge of hydrocarbons. This is an electrical and hydraulic interface only.	n/a


Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	bp 
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1.4. Pull Blue pod with the Discoverer Enterprise (ENTERPRISE) MODU

Prerequisite

A pre job ROV survey is required to ensure the following risks are understood based upon the HAZID conducted for this operation. See table below:

Hazard	Pre Job ROV Survey Requirement
Proper make up of shackle to pod lift eye by the ROV.	Dive ROV with shackle and attempt to make up to lift eye on top of pod. Ensure it will fit around the lift eye and that clear visual indication can be determined when the shackle pin is properly made up. Document with snapshot to ensure reference can be made during actual operation.
ROV accessibility to the pod lift eye.	Determined from requirement for making up shackle (see above).
ROV accessibility to all of the lines that will need to be cut prior to pulling the pod.	Examine and identify the Mux and PBOF cable, the 3 pilot tubing lines and the 1 1/2-in supply line and ensure the ROV can reach them and which cutting device is best suited for the application. For the 1 1/2-in supply line, a determination should be made as to the ROV's ability to cut the hose in-situ or if the pod needs to be lifted out of the LMRP framework slightly. If it needs to be lifted up, a vertical distance should be determined as best possible.
Unidentified hoses and cables holding the pod not cut.	Survey entire pod to ensure no other hoses or cables require cutting above the ones that have been identified in this procedure.
Hydraulic system failure.	In the event the pod stinger de-energize and retract circuit is compromised on the pod and the ROV is unable to hydraulically actuate, an assessment of the ROV ability to access the wedge bolt on the bottom of the stack stinger needs to be made. If possible, the ROV will have to grasp the bolt protruding from below the stinger and pull down vertically to allow the wedge to de-energize.

Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	
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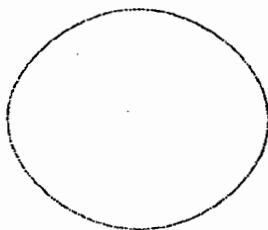
An adequate weather window is required to ensure vessel is able to conduct this operation without the risk of oil over the surface location.

Prior to JSA, a kick off meeting will occur between the subsea operations center in Houston and the Discoverer Enterprise. The objective of this meeting is to walk through the operational steps and establish the communications protocol which governs this operation. The custodian of this document will organize and initiate this kick off meeting.

1. Conduct JSA with crew - TOI to lead and document.
2. From this point forward, PIC is TOI Designee. PIC will communicate and coordinate ROV and pod lifting operations until the pod is removed from the LMRP and installed in pod shipping stand on deck.
3. Position ENTERPRISE on the heading which gives the closest approach for direct vertical access from the auxiliary (aft) rotary.
4. Using subsea winch or drill pipe arrangement appropriate for 25,000-lbs pod weight and overpull of 15,000-lbs above pod weight (total weight to accommodate is 40,000-lbs), deploy 30-ft x 1 ½-in stinger with swivel and 55-ton shackle to 50-ft above Riser Adapter - follow stinger down with ROV.

Note: If 55-ton shackle has to be modified to allow subsea make up, the BP HSE and lifting group have been engaged and the offshore team will need to document HAZID prior to work taking place.

5. Make up shackle to lift eye on top of pod with the stinger attached. Based on ROV preference, attach buoyancy to top of stinger to leave an option to suspend the eye for later connection. Alternatively, the rigging can be disconnected from the down line hook and laid off to the side in a safe position. If winch is used, disconnect hook from rigging and pick up 50-feet. If drill pipe is used, leave rigging connected.

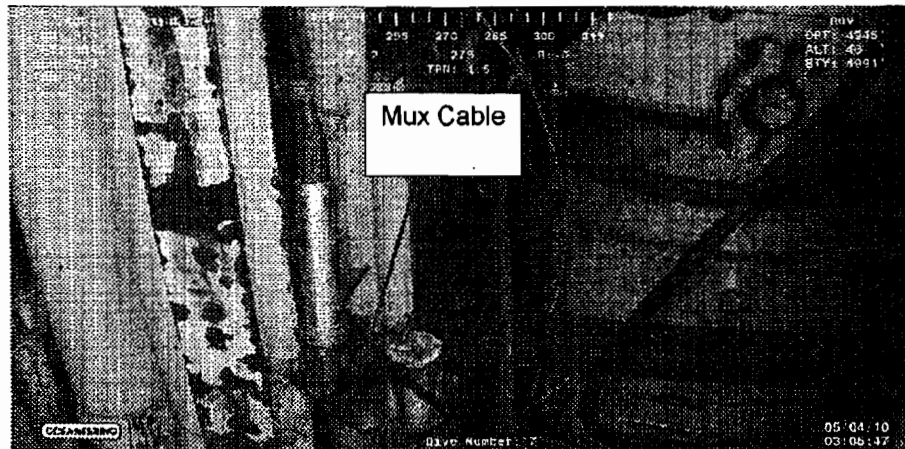




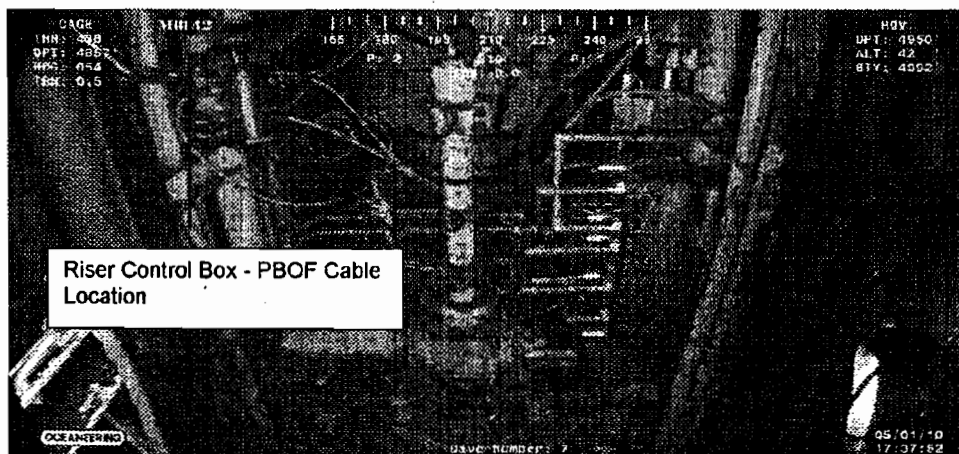
- Verify outboard pod lock is retracted via ROV visual on Blue pod. The inboard pod lock is not visible with the ROV. The lock pin has a rounded end and will retract with upward movement of the pod. Shear value of the bolts holding the pod lock carrier is 15,000 lbs, this must be considered for over pull weight. See picture below of pod lock for reference.



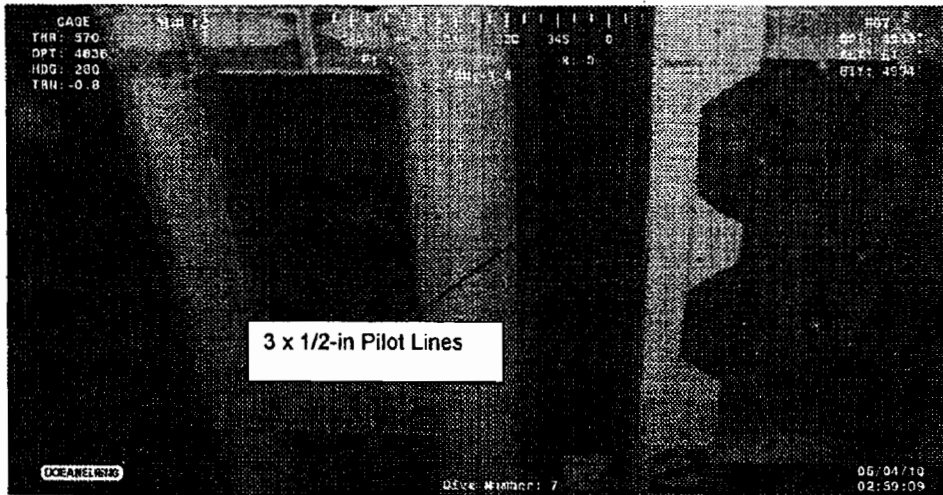
7. If not previously done, cut 1.22-in O.D Mux cable (electronic cable) at the point closest to the pod that is below the breakaway connector that the ROV can access. Ensure the cut is below any soft line that has been attached for support.



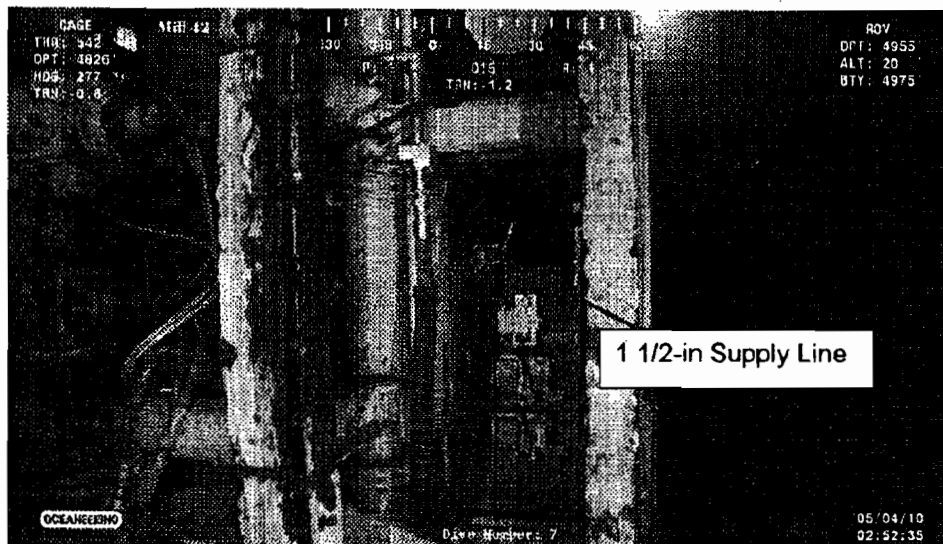
8. Cut 1-in PBOF (electronic cable) cable from SEM (Subsea Electronic Module) to RCB (electronic junction box). Documentation in the Houston office indicates that this may have occurred previously, ROV to confirm and take necessary action.



9. Cut 3 x 1/2-in Hydraulic Pilot lines from pod to shuttle valve manifold for CVP (Conduit Valve Package).



10. Cut 1 1/2-in O.D. hydraulic supply hose from rigid conduit manifold pod as close to Code 62 flange as possible.

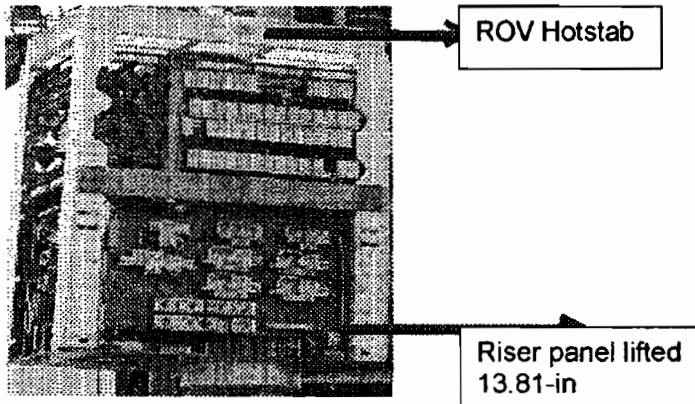




Note: If unable to cut hose at step #9, the following action shall take place during step 13. Lift pod up a distance that will have to be determined by ROV inspection. The distance the pod is lifted should not exceed the height of the remaining portion of the guide frame. Pod will need to be lifted a min. of 46.80-in to clear the stack stinger test ring (11.13-in) and the lip of the guide funnel (35.00-in) – 2 ROVs will be required for this operation based on HAZID conducted.

Note: During all line cutting operations, ensure cutting blade remains outside the pod frame.

11. Insert ROV hot stab (17D) into De-energize port on top of Blue POD.



12. Pressure up on hot stab to 1,800 to 2,000-psi. Pressure shall not exceed 3,000-psi as this is the max working pressure. Observe Stack and Riser panels for vertical movement. Pressure will build and stabilize at regulated input pressure. Once Stack panel and Riser panel is raised 13.81-in this indicates the stingers are de-energized, retracted and ready to pull. When using the subsea accumulator, the ROV hotstab will have to remain installed and pressurized until the POD is clear of the LMRP.


Note: The subsea accumulator system should be charged to maximum of 2,000-psi prior to the start of this operation.

Note: CONTINGENCY ONLY FOR ROV supply to de-energize and retract stingers.

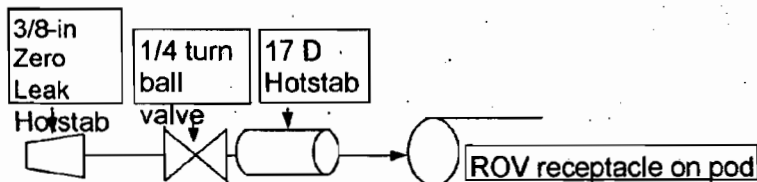
Note: This circuit does not have a block function so we will need to do one of the following in order to keep the stinger from dropping back into the receptacle once hydraulic power has been removed from the stab:

a. Use a ROV Hot stab that can be isolated and leave in the receptacle (see below schematic).


b. ROV to leave HOT stab installed with pressure blocked in until Pod is clear. The

Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	bp 
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decision on how to do this should be made based on the Enterprise's ROV crew preference and ability to manage this task while minimizing damage to ROV equipment.



13. If necessary, move Enterprise until winch wire or drill pipe sling is above pod rigging and reconnect.
 14. Verify hose coming from subsea accumulator is not fouled and has adequate length to allow the crane to pick up a minimum of 10-feet above marine riser/obstructions.
- Note:** Confirm step #9 has been completed.
- Note:** Confirm speed and direction of subsea current to ensure that no clashing will occur when lifting the pod.
15. Pick up blue pod on winch or drill pipe slowly until the stinger test receptacle has cleared the LMRP by 10-feet and all stop.
 16. ROV to remove hotstab from de-energize port on top of blue pod. When the hotstab is removed, the stack and riser stingers will extend, this is not a problem. No action is required.
 17. Once ROV has cleared tether, pull pod to surface.
 18. ROV to conduct full video inspection with snapshots of pod to LMRP interface. Particular attention is requested for the pod receptacles and pod re-entry guidance system.
 19. Install pod receptacle cover with the ROV.
 20. Land Pod in shipping stand and secure with bolts provided.
 21. Once the Blue pod has been landed on the deck of the Enterprise, BP personnel will be expected to photograph and continuously observe the stack until it has been put on the deck of the Enterprise. At that point BP personnel will be assisting Coast Guard Personnel and MMS Personnel in observing the repair work for the Blue Pod. Any equipment removed to allow for Pod repair must be retained in secured, preferably locked containment boxes. It will be treated as "evidence" and secured appropriately. The Coast Guard will make the decision as to if they take the evidence with them after conclusion of Pod repair, or whether Transocean will be expected to have that responsibility. Transocean personnel will be prepared to execute and maintain appropriate chain of custody procedures in the event it becomes necessary for Transocean personnel to secure and maintain physical evidence.

Gulf of Mexico SPU	MC252-1 Clear Leader Containment Blue Pod Recovery	bp 
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22. If there is not a Coast Guard or MMS representative onboard, the PIC will be required to take pictures of all sides of the pod including the Cameron data plate.
23. Blue pod repair work performed with a separate procedure will take place onboard the ENTERPRISE. The required Cameron service personnel have been dispatched to the ENTERPRISE along with the necessary equipment to perform the repair work.