



# CHANGE PROPOSAL

Proposal No.: SS -015

LOCATION (Name): Deepwater Horizon		Date: 2/6/2006	
CHANGE TITLE: Auto Shear Circuit Not Working		Submitted By: Karsten Petersen	
REASON FOR CHANGE (CHECK ONE)			
<input checked="" type="checkbox"/> Non-Conformance	<input type="checkbox"/> Corrective Action	<input type="checkbox"/> Preventative Action	<input type="checkbox"/> Routine Observation (If Applicable)
Identification No.			
CHANGE TYPE (CHECK ONE)			
<input type="checkbox"/> Organization	<input type="checkbox"/> Policy/Procedure	<input type="checkbox"/> Change to Regulation	<input type="checkbox"/> MODU Design
<input type="checkbox"/> Documented Work Practices	<input type="checkbox"/> MODU Operating Criteria	<input checked="" type="checkbox"/> Safety Systems/Critical Ops. Equip.	<input type="checkbox"/> Other
SECTION A: Proposal Description, to be completed by Originator – additional details to be attached if necessary.			
Department: Sub Sea		Name: Billy Stringfellow	
		Date: 2/6/2006	
Present Condition (What is the Problem: Auto Shear Circuit has a hydraulic leak when armed.			
Proposal Reasons / Benefits (Expected Impact): Communicate that the Horizon is currently operating with a disabled auto shear circuit.			
Required Resources, Materials, and Labor: Unknown at present time.		<input type="checkbox"/> Major	> \$250,000
		<input type="checkbox"/> Moderate	> \$100,000
		<input checked="" type="checkbox"/> Minor	No effect
Department Supervisor: Van Williams		Date: 2/6/2006	
SECTION B: Risk Factors (Brainstorming)			
Does the Change require a Risk Assessment?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
Does the Change impact regulatory requirements?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change affect Lightship or Center of Gravity (calculations)?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change require a modification of installation drawings?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change require Regulatory/Class approval?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change require vendor involvement?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change require acceptance testing upon completion?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change affect the spares inventory?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the change alter Environmental risk?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change affect Safety Systems?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
Does the Change require a new or different part or material?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change require new/revised software?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change require design calculations?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change require engineering approval?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
Does the Change alter operating procedures?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
Risk Factors Findings: <i>only thing if alter (See Addition Information Page 2.)</i>			
SECTION C: Documentation			
Drawing No:		Drawing Title:	
Other Documentation Required:			
Formal Risk Assessment Recorded (attach if necessary):		<input type="checkbox"/> Y	<input type="checkbox"/> N
Safety Case Revisions Required (if applicable)		<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Verification Scheme/Safety Critical Elements Revisions Required?		<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N

Rev. 1

Sheet 1

Exhibit No. 4312  
Worldwide Court  
Reporters, Inc.

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TRN-INV-01262584



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**SECTION D: Weight Changes, to be completed by Marine Responsible Person**

Is there a weight change? <input type="checkbox"/> Y <input type="checkbox"/> N			
Weight Changes: +/- Long Tons	VCG:	LCG:	TCG:

**SECTION E: Welding Procedures, to be completed by the Structural Responsible Person**

WELDING Procedure Required? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	WPS No./Ref.:
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**SECTION F: Approvals**

	NAME	SIGNATURE	DATE
Technical Manager	DAN R.	[Signature]	2/7/06
Rig Manager	Jonathan [Signature]	[Signature]	2/6/06
Operations Manager	[Signature]	[Signature]	2/6/06
Facility Manager	Van Williams	[Signature]	2/6/06

**SECTION G: Agency Review Approval**

Regulatory Agency Approval Required? <input type="checkbox"/> Y <input type="checkbox"/> N	
Agency:	Contact:
Date of Agency Submittal:	Date of Agency Approval:

**SECTION H: Technical Support, to be completed if Engineering Support is required.**

Technical Support Required? <input type="checkbox"/> Y <input type="checkbox"/> N
Name of Engineer Assigned? Tel. No.:

**SECTION I: AFE**

AFE Amount: \$	AFE No.:
Local Tracking No.:	BSD:
Date of Completion:	Final Total Cost:

**SECTION J: Close Out**

	NAME	SIGNATURE	DATE
Proposal Work Fully Completed.			
Drawings Revised.			
Drawings Agency Approved.			
Equipment Documentation Package Rec'd			
Equipment Documentation package Agency Approved.			
Proposal Closed Out			
Rig Manager:		Date:	



## CHANGE PROPOSAL


Additional Information (list applicable section and information):

**Auto Shear system is designed to close the shear rams if the LMRP is inadvertently disconnected from the BOP. The disabling of the Auto Shear System does not effect the Dead Man functionality.**

**This Auto Shear system is not tied into the EDS and will therefore NOT effect the function of the EDS system.**

*Will place signs on all control panels noting that Auto Shear is disabled.*

Additional Information (list applicable section and information):

 Transocean	WELL CONTROL HQS-OPS-HB-01	SECTION:	9
		SUBSECTION:	3
WELL CONTROL EQUIPMENT			
CLOSING UNITS AND ACCUMULATOR REQUIREMENTS			

The autoshear is a back-up system that can be armed or disarmed. In the arm mode it secures the well in the event of separation of LMRP from BOP by closing the blind/shear rams.

The deadman is a back-up system that also can be armed or disarmed. In the arm mode, it secures the well by closing the blind/shear rams in the event of loss of both hydraulic supplies and loss of power signal to both MUX control pods.

### 3.3 MOORED FLOATING RIGS

On moored rigs the stack-mounted accumulators must provide the hydraulic fluid for closing the largest annular BOP plus 60% reserve.

The stack-mounted accumulators also help minimize the response time to close the annular.

### 3.4 ACCUMULATOR PRE-CHARGE

For subsea systems, piston type or bladder type accumulators must have a pre-charge equal to 1/3rd of the rated pressure, i.e.: 1000 psi (6,900 kPa, 69 bar) for 3000 psi (20,700 kPa, 207 bar) systems and 1500 psi (10,345 kPa, 103.5 bar) for 4500/5000 psi (31,000 kPa, 310 bar/34,600 kPa, 345 bar) systems plus hydrostatic and temperature compensation. Designated shear ram bottles may be precharged higher to maximize the minimum amount of pressure to shear drillpipe.

A gradient of 0.445 psi/ft (10 kPa/m, 0.1 bar/m) is used to calculate the hydrostatic compensation; additional factors for temperature change are included for systems operating deeper than 3,000' water depths.

Nitrogen (N<sub>2</sub>) gas must be used for accumulator pre-charge.

Floater type accumulators shall not be used subsea for 5000 psi control systems, and are limited to 3000' water depths for 3000 psi control systems.

### 3.5 FOUR-WAY VALVES

All four-way valves on the accumulator manifold for subsea systems on the hydraulic pump unit or diverter panel must be in either the 'open' or 'close' position during normal operations. They must not normally be left in the 'block' position.

*Handcopies are printed from an electronic system and are not controlled*

ISSUE NO:	02	REVISION NO:	00	PAGE	CP
REVISION DATE:	DECEMBER 1, 2004			6	7

## Task Risk Assessment Worksheet

[illegible]

Task Risk Assessment Worksheet (page 2)



# Task Risk Assessment Worksheet

START  
TO BE  
ACCOUNTABLE

## Comments and Conclusions:

Reference: Well Control Manual Section 9 Subsection 3 page 6 of 7:

The autoheader is a back-up system that can be armed or disarmed. In the arm mode it secures the well in the event of separation of LMFP from BOP by closing the blind / shear rams.

The deadman is a back-up system that also can be armed or disarmed. In the arm mode, it secures the well by closing the blind / shear rams in the event of loss of both hydraulic supplies and loss of power signal to both MUX control pods.

These two systems are independent of each other. The deadman system is enabled and fully operational.

## Risk Assessment Team Members:

Name	Position	Signature	Date
Billy Springfellow	Sr. Subsea Supervisor		2/6/08
Kenneth Johnson	OSA		2/6/08
Bronson Park	RSTC		2/6/08

## Reviewed By O.I.M.:

Name	Comments	Signature	Date
Van Wilkum			2/6/08