

From: Moore, Jimmy (Houston)
Sent: Tuesday, March 02, 2010 10:44 PM
To: Pelley, Darrel (Houston); Munoz, Dan (Houston)
Cc: Ramos, Andrew (Houston); Kent, James (Houston); Ambrose, Bill (Houston); Weishaupt, Mark (Houston); Smith, Pharr (Houston)
Subject: Re: Remove Crown Bumper REA 2263

Attachments: image001.gif; image002.gif

Darrel,
We will get with you guys early next week to review this issue.
Regards
Jimmy

From: Pelley, Darrel (Houston)
To: Moore, Jimmy (Houston); Munoz, Dan (Houston)
Cc: Ramos, Andrew (Houston); Kent, James (Houston); Ambrose, Bill (Houston); Weishaupt, Mark (Houston); Smith, Pharr (Houston)

Sent: Tue Mar 02 14:57:38 2010
Subject: RE: Remove Crown Bumper REA 2263

Gents,

As you can see below, we have been asked a question about removing a piece of safety equipment in the name of safety. I'm not necessarily against it, and there is some justification and precedent to doing this on a highly automated rig. As a result, an opinion from QHSE would be extremely helpful.

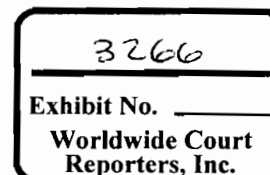
To clarify our position, this is the type of modification that would need to be handled on a rig-specific basis only. Older rigs with only the traditional crown-o-matic and a set of resilient (read: wood) blocks under the crown would not be candidates, but the newer, automated rigs, fitted with proper kinetic energy management (KEMS) and multiple proximity sensors and switches can be considered a different matter.

Similar to the precedent set on the enhanced DEN class ships, rigs with modern KEMS and proximity-based mitigation systems do not get much added benefit from the wooden or synthetic bumper blocks fastened under the crown, because a crown contact becomes the result of a cascade failure of multiple components, and requires a conscious effort by the driller.

Mark is right, and a risk assessment is necessary to make a proper decision. The risk assessment should be compiled by the operation and include a summary of the various mitigations provided by the electronic protection systems versus the bumper blocks, measured against the dropped-object risk associated with the bumper blocks hanging under the crown.

I believe I could be comfortable with removing the blocks from under the crown based on the protection systems installed in the derrick, but I'm a little concerned about the justification. If secondary retention increases the risk of dropped objects, why do we have it?

Maybe a short meeting to resolve when everyone is back from Norway so we can respond to the rig on behalf of QHSE and ENG?



CONFIDENTIAL

TRN-MDL-01099427

Thanks,

Darrel Pelley
Director, Engineering Support (HOU-ENG)
Transocean Offshore Deepwater Drilling, Inc.
4 Greenway Plaza | 713.232.7872 | Fax 713.232.7022 | 832.455.3591 mobile | darrel.pelley@deepwater.com

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From: Weishaupt, Mark (Houston)
Sent: Monday, March 01, 2010 4:51 PM
To: Pelley, Darrel (Houston); Ambrose, Bill (Houston); Moore, Jimmy (Houston)
Cc: Ramos, Andrew (Houston)
Subject: FW: Remove Crown Bumper REA 2263

Darrel,

This REA is in a way asking us to set a corporate safety policy on the requirement for crown "safety" bumpers (normally 12" x 12" timbers). I am not sure what departments should be involved in such a decision and how we should apply it to other rigs in the fleet. As a minimum a complete risk assessment with the pros and cons of the safety timber bumpers should be prepared and agreed upon.

On the new build Clear Leader series, we understand a decision was made to eliminate any crown bumpers. This definitely eliminates the worry about dropped objects. These rigs have good electronic crown saver devices and other monitoring for the driller, so a crown collision is highly unlikely. If the block is pulled into the crown frame the chance of over stressing the drill line and a true dropped block incident is higher than if some resilient safety bumper was in place.

On the Horizon they have conventional timber type crown blocks with some type of wire mesh safety guard below with some framework. The problem with timbers is they will splinter and shatter and normally held up with simple u-bolts. This creates a chance for a dropped object. The wire mesh and frame are suppose to eliminate the issue with the splintered wood falling.

On many older rigs two large timber blocks with a couple u-bolts is all that is installed. Some of these rigs may or may not have an electronic KEMS type system with upper limit electronic safety devices.

My feeling is we should have a KEMS type crown saver on every rig in the fleet and then change the timbers out for some type of rubber product (truck loading ramp bumpers) with a safety net secondary retention device or make the decision, after the risk assessment, to eliminate any type of crown bumper system.

I am not sure if our dropped objects safety group has addressed this issue or not, so have copied Jimmy Moore for feedback also.

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lt
nr

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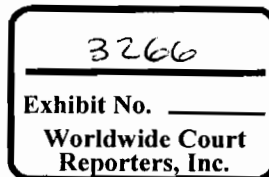
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Darrel Pelley
Director, Engineering Support (HOU-ENG)
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From: Weishaupt, Mark (Houston)
Sent: Monday, March 01, 2010 4:51 PM
To: Pelley, Darrel (Houston); Ambrose, Bill (Houston); Moore, Jimmy (Houston)
Cc: Ramos, Andrew (Houston)
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Darrel,

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Regards,

Mark Weishaupt

Discipline Manager - Mechanical Group

Houston Engineering

Mark.WHYPERLINK "<mailto:Mark.Weishaupt@deepwater.com>"eishaupt@deepwater.com

713 232-7772 direct office

"Note New E-Mail Address"

From: Johnson, Paul (Houston)

Sent: Monday, March 01, 2010 12:39 PM

To: Ramos, Andrew (Houston); DWH, MaintSup (Deepwater Horizon); Weishaupt, Mark (Houston); Loftis, Terry (Houston); 'Telling, Lee'

Cc: DWH, Toolpusher (Deepwater Horizon); DWH, OIM (Deepwater Horizon); Kent, James (Houston)

Subject: RE: Remove Crown Bumper REA 2263

I have to admit, I am at a loss now.

The original REA was to clarify if we are allowed to remove the crown bumper bars. We requested Engineering assistance as we did not understand the implications of having the bars apposed to not having them.

The new build ships with AHD drawworks similar to our selves do not have bumpers installed in the crown. With the information supplied to date can we safely remove the bumper bars, or are we better to leave them in the derrick?

There are pros and cons to both sides of this request and I want to ensure we do the right thing.

Regards

Paul

From: Ramos, Andrew (Houston)

Sent: Monday, March 01, 2010 11:55 AM

To: DWH, MaintSup (Deepwater Horizon); Weishaupt, Mark (Houston); Loftis, Terry (Houston); 'Telling, Lee'

Cc: DWH, Toolpusher (Deepwater Horizon); DWH, OIM (Deepwater Horizon); Johnson, Paul (Houston); Kent, James (Houston)

Subject: RE: Remove Crown Bumper REA 2263

Steve,

I believe I covered the basics (in general) in my correspondence dated 2-10-10 (see below). If something more specific is needed, please address in your response. I have CC'ed Terry Loftis and Lee Telling to better assist with the controls aspect.

Regarding the removal of the Safety Crown Bumpers (timber blocks), as mentioned also in my correspondence (2-10-10), were part of the original design to protect the crown from severe impact damage incurred from the traveling block surpassing its set limits. Removing them still leaves the potential of operator failure where the traveling block strikes the

Bumper Block Frame and potentially buckles it. Falling bent structural members and or retaining bolts and nuts may result. In addition, structural deformations to the crown and or de-rating of the derrick may occur as a result.

Regards,

Andrew N. Ramos

Design Engineer II - Mechanical & Rig Systems

Transocean Inc. HQS

Houston, TX, USA

(O): +1 (713) 232-7076

(E): Andrew.RamosHYPERLINK "<mailto:Andrew.Ramos@deepwater.com>"@deepwater.com

From: DWH, MaintSup (Deepwater Horizon)

Sent: Monday, March 01, 2010 11:06 AM

To: Ramos, Andrew (Houston); Johnson, Paul (Houston); Kent, James (Houston)

Cc: DWH, Toolpusher (Deepwater Horizon); DWH, OIM (Deepwater Horizon)

Subject: RE: Remove Crown Bumper REA 2263

Andrew,

I believe the only thing that was in question to the REA was how the software and systems actually function, then either engineering denying or approving the request to remove the crown bumpers. We have tested the crown stop software to verify that the block is stopped in the software. The findings were that when the block reaches the first warning prox it is put into creep mode, once it reaches the last prox the block is stopped in the software. To move the block up any further the operator has to push and hold the override button while giving the command up on the joystick, this movement is also set to creep.

Respectfully,

Steve Bertone

Maintenance Supervisor

Deepwater Horizon

HYPERLINK "<mailto:maintsup.dwh@deepwater.com>"maintsup.dwh@deepwater.com

713 232 8266

God grant me the serenity to accept the things I cannot change;

The courage to change the things I can;

And the wisdom to know the difference. - Serenity Prayer

This email and any files transmitted with it from Transocean Offshore Deepwater Drilling, Inc. are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error please notify the sender.

From: Ramos, Andrew (Houston)

Sent: Monday, March 01, 2010 10:44 AM

To: DWH, MaintSup (Deepwater Horizon); DWH, Toolpusher (Deepwater Horizon); DWH, OIM (Deepwater Horizon)
Subject: RE: Remove Crown Bumper REA 2263

Gents,

Has there been any follow ups to this REA? Please provide any updates as to the status? Is this REA still active? Or should I close out? Due date is approaching this week.

Regards,

Andrew N. Ramos

Design Engineer II - Mechanical & Rig Systems

Transocean Inc. HQS

Houston, TX, USA

(O): +1 (713) 232-7076

(E): Andrew.RamosHYPERLINK "<mailto:Andrew.Ramos@deepwater.com>"@deepwater.com

From: DWH, MaintSup (Deepwater Horizon)

Sent: Wednesday, February 10, 2010 2:43 PM

To: DWH, Toolpusher (Deepwater Horizon); DWH, OIM (Deepwater Horizon)

Cc: Ramos, Andrew (Houston)

Subject: FW: Remove Crown Bumper REA 2263

This is what I have received back from engineering on the REA on bumper removal. I have seen the aftermath of a collision with the top drive and the bumpers on the Jack Bates. There was not to much left of the wood timbers and the I beams were out at 45 and 90 degrees. The wood splinters fell everywhere and they were finding them in different location for days afterward. They also bent the water table main I beams which resulted in the de-rating of the derrick. They also had a key to go past the limits. How do you want to proceed?

Mike Dicello

Maintenance SupervisorDeepwater Horizon

maintsup.dwh@deepwater.com

713-232-8266

From: Ramos, Andrew (Houston)

Sent: Wednesday, February 10, 2010 2:27 PM

To: DWH, MaintSup (Deepwater Horizon)

Cc: Weishaupt, Mark (Houston); Loftis, Terry (Houston); Telling, Lee

Subject: RE: Remove Crown Bumper REA 2263

Mike,

Here is the excerpt from my conversation with NOV and our Controls Discipline Manager CC'ed in this e-mail :

Basically, the DWH should have programmed into its CyberBase Controls, upper and lower set points that act as Block Height Warnings. The secondary retention devices (timber blocks) were part of the original design to protect the crown from structural damage that could incur if the traveling block surpassed its set limits and smacked right into it.

I further discovered that even with these safety limits, the system can be put into what is referred to as "Creep Speed". This is when the traveling block travels 1/4 the speed. This would override these limits, thereby allowing the block to either set on the drill floor or reach the bottom of the crown beams, causing catastrophic failures to the equipment and associating structures.

If by removing these timbers we prevent the possibility of dropped chunks of splinters and retaining U-bolts, there still is a potential of operator failure where the traveling block could strike the Bumper Block Frame and potentially buckle it. Thereby resulting in dropped structural members and or retaining bolts and nuts. Also structural deformations to the Crown may occur as a result.

Our Controls Discipline Manager has suggested an option to consider would be to rewrite the software so that "Creep Speed" is key operated. This would introduce a little more effort on the crew, but would make everyone more aware of the potentials involve bringing the traveling block into this form of operations.

Gents, if I have missed any major points, please fill in.

Please let me know your thoughts on these matters.

Regards,

Andrew N. Ramos

Design Engineer II - Mechanical & Rig Systems

Transocean Inc. HQS

Houston, TX, USA

(O): +1 (713) 232-7076

(E): Andrew.RamosHYPERLINK "<mailto:Andrew.Ramos@deepwater.com>"@deepwater.com

From: DWH, MaintSup (Deepwater Horizon)
Sent: Wednesday, February 10, 2010 10:14 AM
To: Ramos, Andrew (Houston)
Subject: RE: Remove Crown Bumper REA 2263

Andrew,

My understanding of it is that to install a secondary retention device will actually increase the dropped object potential. They are having some issues on the drill floor right now so I am not able to discuss in detail with the toolpusher, but once I see him will discuss as I have several other items that need their input. Appreciate the assistance.

Mike Dicello

Maintenance Supervisor Deepwater Horizon

maintsup.dwh@deepwater.com

713-232-8266

From: Ramos, Andrew (Houston)
Sent: Wednesday, February 10, 2010 10:03 AM
To: DWH, MaintSup (Deepwater Horizon)
Subject: RE: Remove Crown Bumper REA 2263

Mike,

Its ok. I understand that its important for you to know your way around the rig. I did some more studying after I sent that last e-mail and noticed the precise location under the Crown beams. The picture in the Change proposal was sent only in B&W and small. It makes it very difficult to pin-point any details on it.

I did some discussing around with our local NOV representative and Controls Discipline Manager and have will summarize in a later e-mail our discussion. For now, I wonder if you could elaborate what brought up this proposed change?

Regards,

Andrew N. Ramos

Design Engineer II - Mechanical & Rig Systems

Transocean Inc. HQS

Houston, TX, USA

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(E): Andrew.RamosHYPERLINK "<mailto:Andrew.Ramos@deepwater.com>"@deepwater.com

From: DWH, MaintSup (Deepwater Horizon)
Sent: Wednesday, February 10, 2010 9:40 AM
To: Ramos, Andrew (Houston)
Subject: RE: Remove Crown Bumper REA 2263

Andrew,

Sorry about not getting back with you quicker this is my 2nd day onboard and am getting my footing. The drawings that you have on e-mail are not the bumpers that I believe they want to remove. These would be up under the crown and are the bumpers for the top drive so it does not impact the water table. I need to get with the toolpusher and see if we can get some detailed pictures. There was one on the change proposal, did you see that one?

Mike Dicello

Maintenance SupervisorDeepwater Horizon

maintsup.dwh@deepwater.com

713-232-8266

From: Ramos, Andrew (Houston)
Sent: Monday, February 08, 2010 9:14 AM
To: DWH, MaintSup (Deepwater Horizon)
Cc: Vandevelde, Andy (Houston)
Subject: Remove Crown Bumper REA 2263

James,

I have looked over this REA, but can you send in photos and details drawings of the bumpers to remove? I believe I found the Draco drawing related to this location. But please confirm.

We should definitely remove these timber type bumpers, but replace them with a rubber product with good secondary retention. I'll check with the new build derricks to see how they addressed this issue and revert back.

Thanks and Regards,

Andrew N. Ramos

Design Engineer II - Mechanical & Rig Systems

Transocean Inc. HQS

Houston, TX, USA

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