



DWH Incident Investigation – Subsea

7709
Exhibit No. _____
Worldwide Court Reporters, Inc.

Subject: *Deepwater Horizon* AMF Battery Replacement

This document summarizes Transocean RMS records, Cameron purchase records and other documents, and email correspondence to confirm the battery replacement dates and pod positions for the *Deepwater Horizon's* three SEMs on April 20, 2010.

The no. 3 SEM was in the blue pod position on April 20, 2010:

- December 2006 – Cameron service hand visits *Deepwater Horizon* and replaces the no. 2 SEM in the yellow pod with the no. 3 SEM from the spare pod.¹
- June 2007 through November 2007 - Transocean ships No. 3 SEM and MUX cables from yellow pod to Cameron for maintenance and testing.² Cameron replaces batteries in the no. 3 SEM at this time.³
- April 2008 – Cameron performs integration testing on no. 3 SEM and no. 2 MUX section after the pie connectors cables are replaced.⁴
- July 2008 – No. 3 SEM and yellow pod MUX cables still out of service.⁵
- November 2008 – Additional work to get no. 3 SEM and no. 2 MUX section ready for service.⁶
- December 2008 through January 2009 – Cameron service hands and rig crew attempt to install no. 3 SEM in the blue pod position during rig move. Due to issues with the SEM and regulators, however, the no. 3 SEM is pulled back off the BOP and not placed into service.⁷
- February 2009 – Transocean Technical Field Support is aboard the *Deepwater Horizon* to prepare and test the no. 3 SEM.⁸
- March 2009 – During rig move, the no. 3 SEM is installed in the blue pod position on the BOP and fully tested.⁹
- April 2009 – BOP is splashed, putting the no. 3 SEM into service.

¹ Cameron Field Service Order, CAM_CIV_0016820; RMS Equipment History for WCS BOPP002, page 3.

² Shipping receipt, CAM_CIV_0016300;

³ RMS Equipment History for WCS BOPP002, page 3; Cameron Recommended Upgrade and Verification Document for Mark I and II SEM, CAM_CIV_0016710; Cameron Factory Acceptance Test Procedure dated Nov. 28, 2007, CAM_CIV_0016371.

⁴ Cameron Factory Acceptance Test Procedure for Mark II Control Pod, CAM_CIV_0016307.

⁵ RMS Equipment History for WCS BOPP002, page 10.

⁶ RMS Equipment History for WCS BOPP002, page 11.

⁷ Cameron Field Service Order, CAM_CIV_0016867, Cameron Field Service Order, CAM_CIV_0012848, January 15, 2009 email from Owen McWhorter to Dana Burkett.

⁸ February 11, 2009 email from Dana Burkett to DWH Subsea Supervisor.

⁹ RMS Equipment History for WCS BOPP 003, page 16.



The no. 1 SEM was in the yellow pod position on April 20, 2010:

- March 2009 – During rig move, the no. 1 SEM on the blue pod is replaced with the no. 3 SEM.¹⁰ The no. 1 SEM is sent to Cameron for upgrades and maintenance.¹¹
- June 2009 through September 2009 – Cameron overhauls the no. 1 SEM, including a battery upgrade.¹²
- October 2009 – The no. 1 SEM replaces the no. 2 SEM in the yellow pod is put into service.¹³

The no. 2 SEM was in the spare (white) pod position on April 20, 2010:

- October 2009 – The no. 2 SEM in the yellow pod is replaced by the no. 1 SEM.¹⁴ Transocean sends the no. 2 SEM to Cameron for upgrades and maintenance.
- January - February 2010 - AMF Batteries replaced and AMF tested.¹⁵
- April 2010 – The no. 2 SEM is installed in the spare pod.¹⁶

¹⁰ RMS Equipment History for WCS BOPP 003, page 16; Reference Transocean RMS Documents for Pod # WCS BOPP 001 Job # 09-429.

¹¹ RMS Equipment History for WCS BOPP 001, page 16-17.

¹² RMS Equipment History for WCS BOPP 001, page 23-24.

¹³ See RMS Equipment History for WCS BOPP002, page 18.

¹⁴ See RMS Equipment History for WCS BOPP002, page 18.

¹⁵ Cameron Seal Test Procedure for Subsea Equipment, CAM_CIV_0016759; Cameron Seal Test Procedure for Subsea Equipment, CAM_CIV_0016751; Cameron Factory Acceptance Test for Subsea Electronics Modules, CAM_CIV_0016774.

¹⁶ RMS Equipment History for WCS BOPP002, page 18.