

**DEEPSTAR VIII PROJECT
MEETING NOTES**

PAGE 1 OF 7

PLACE: Chevron

DATE: April 10, 2007

TIME: 8:00 AM

SUBJECT: 8400 (RPSEA 1400) – Floating Systems Committee Meeting Minutes – CTR Review Meeting

DISTRIBUTION: DeepStar 8400/RPSEA 1400 Committee Members and Attendees

ITEM	SUBJECT	ACTION
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1. CTR Presentations and Discussions

Attachment 1 includes a list of all CTRs presented and discussed during the day. The complete package of CTRs will be sent out as a separate item. Attachment 2 includes the presentations given. Note that not all CTRs included a PowerPoint presentation. Instead, these were discussed based on the CTR.

In total, 46 CTRs were presented. Some of these were referred to other committees as shown in the table in Attachment 1. Many of the CTRs do not yet have champions. Champions will have to be identified before the CTRs can be considered further.

ACTION, April 25

There was a lot of commonality among CTRs in several groups as follows:

- VIV and mitigation (7)
- Fatigue and crack detection (8)
- Dry tree semi and tensioners (9)
- Composite risers (3)

The champions for CTRs within each group should discuss the CTRs and combine, modify or eliminate CTRs as appropriate. Having multiple competing CTRs will dilute the voting such that neither may receive sufficient votes for funding.

ACTION, May 4

2. Schedule

Short listing of CTRs (combine like CTRs, eliminate those w/o Champions)	May 4
Ranking of CTRs	May 9 - May 23
Ranked CTRs to management committee	May 25

RECORDED BY: Paul Devlin

ITEM	SUBJECT	ACTION
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DEEPSTAR PHASE VIII
8400 COMMITTEE MEETING ATTENDANCE REGISTER
DATE: April 10, 2007 TIME: 08:00 AM VENUE: Chevron – Houston, Texas

DeepStar 8400 Floating Systems RPSEA CTR Review Meeting April 10, 2007			
FIRST NAME	LAST NAME	COMPANY	SIGNATURE
Rajiv	Aggarwal	Granherne	<i>[Signature]</i>
David	Andersson	Granherne	<i>[Signature]</i>
Raj	Ayers	Stress Engineering	<i>[Signature]</i>
Hugh	Banon	BP	
Gail	Baxter	Marathon	<i>[Signature]</i>
Pierre	Beynet	BP	<i>[Signature]</i>
Shankar	Bhat	Shell	<i>[Signature]</i>
Paulo	Bisotto	Bureau Veritas	
John	Chienis	Houston Offshore	
Jim	Chilwood	Chevron/DeepStar	<i>[Signature]</i>
Jin-Sug	Chung	Technip USA	<i>[Signature]</i>
Yiannis	Constantinides	Chevron	<i>[Signature]</i>
Paul	Devlin	Chevron	<i>[Signature]</i>
Michel	Dib	WorleyParsons Sea	<i>[Signature]</i>

RECORDED BY: Paul Devlin

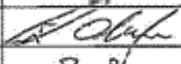
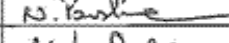
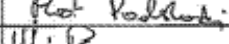
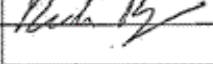
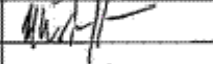
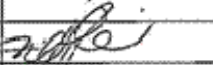
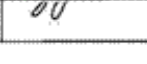
ITEM	SUBJECT	ACTION
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DeepStar 8400 Floating Systems RPSEA CTR Review Meeting April 10, 2007			
FIRST NAME	LAST NAME	COMPANY	SIGNATURE
Halim	Egamiel	Noble Corporation	
Jie	Fang	INTEC Engineering	
Tony	Garziona	RPSEA	<i>[Signature]</i>
Rupak	Ghosh	BP	
Mike	Grecco	Chevron	<i>[Signature]</i>
Bill	Greiner	Granherne	
Himanshu	Gupta	BP	<i>[Signature]</i>
Christopher	Haver	Chevron	<i>[Signature]</i>
Jon	Husby	Aker-Kvaerner	<i>[Signature]</i>
Afzal	Hussain	BNV	
Melin	Karayaka	Chevron	
Andrew	Kiner	AMOG Consulting	<i>[Signature]</i>
Steinar	Kristoffersen	Statol	<i>[Signature]</i>

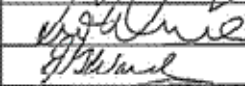
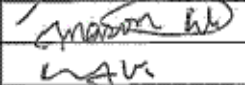
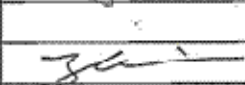
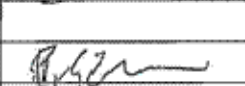
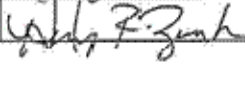
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DeepStar 8400 Floating Systems RPSEA CTR Review Meeting April 10, 2007			
FIRST NAME	LAST NAME	COMPANY	SIGNATURE
Ming-yao	Lse	Chevron	<i>[Signature]</i>
Jean-Luc	Logras	Aceris US, Inc.	<i>[Signature]</i>
Steven	Leverette	Allianz	
Genshen	Liu	Aker-Kvaerner	<i>[Signature]</i>
Hin	Lo	Shell	<i>[Signature]</i>
Wei	Ma	Chevron	
Nick	Martov	Offshore Model Basin	<i>M. Martov</i>
Drew	Natalamaki	Champion Technologies	
Richard	Nercler	OTRC	<i>Richard Nercler</i>
Chris	Nungall	Granitama	
John	Nurray	FloaTEC	<i>[Signature]</i>
Roberto	Noce	Moss Maritime	<i>[Signature]</i>

ITEM	SUBJECT	ACTION
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DeepStar 8400 Floating Systems RPSEA CTR Review Meeting April 10, 2007			
FIRST NAME	LAST NAME	COMPANY	SIGNATURE
Art	Cluysen	Statol	
Nicolas	Parsloe	DORIS Engineering	
Ma	Podskarni	2-H Offshore	
Stein	Rasmussen	Aker Kvaerner	
Rick	Rogers	GlobalSantaFe	
Jean-Francois	Saint-Marcoux	Acergy US, Inc.	
Art	Schroeder	RPSEA	
Kjell	Skjougset	Statol	
Giri	Sreenivasan	Chevron	
Michael	Templin	Technip, USA	
Ricky	Thethi	2-H Offshore	
Michael	Tognarelli	BP	
Bruce	Urbani	Grant Prideco	

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DeepStar 8400 Floating Systems RPSEA CTR Review Meeting April 10, 2007 			
FIRST NAME	LAST NAME	COMPANY	SIGNATURE
Tom	Walsh	Shell	
Don	Wang	Chevron	
Lair	Wanvik	Aker-Kvaerner	
Skip	Ward	INTEC Engineering	
Mason	Wu	Aceray US, Inc.	
Chunfa	Wu	WorleyParsons Sea	
Jun	Xu	Marintek	
Jim	Yu	WorleyParsons Sea	
Jane	Zhang	Shell	
Rong	Zhao	Marintek	
Harry	Zonker	Alcoa	

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DeepStar 8400 Floating Systems RPSEA CTR Review Meeting April 10, 2007				
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David	Anderson	BP	David.A@bp.com	David Anderson
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8400 Floating Systems Committee RPSEA CTR Review Meeting

Date: Tuesday, April 10, 2007
Time: 7:45 a.m. – 4:00 p.m.
Location: Chevron Sugar Land Facility, Auditorium

AGENDA

7:45	Coffee & Continental Breakfast	
8:00	Introduction	P. Devlin
8:15	CTR Presentations	ALL
10:00	Break	
10:30	CTR Presentations (con't)	ALL
11:30	Lunch	
12:15	CTR Presentations (con't)	ALL
2:00	Break	
3:30	Wrap Up Discussions	
4:00	Adjourn	

NOTE: Meeting length depends on number of CTR's proposed. Please allow at least until 4pm.



Chevron

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NOTE: Meeting length depends on number of CTR's proposed. Please allow at least until 4pm.

DeepStar 8400/RPSEA 1400 CTR Review Meeting Attendance List, April 10, 2007

First Name	Last Name	Company	Phone	Email	Attended
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Bob	Haley	Trelleborg CRP	713-800-6309	bhaley@trelleborg.com	
Henrik	Hannus	Aker-Kvaerner	713-270-2706	henrik.hannus@akerkvaerner.com	
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Metin	Karayaka	Chevron	832-854-2121	karayaka@chevron.com	
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Amit	Katarya	Atlantia	281-898-6076	amit.katarya@sbmimodco.com	
Harold	Keys	Noble Corporation	218-276-6193	hkeys@noblecorp.com	
Andrew	Kilner	AMOG Consulting	713 964 2601	andrew_kilner@amogconsulting.com	X
Kerry	Kirkland	Stress Engineering		kerry.kirkland@stress.com	
Jason	Kirksey	Chevron	832-854-3878	krks@chevron.com	
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Vasanth	Kothnur	GE Global Research			
Steinar	Kristoffersen	Statoil		stekr@statoil.com	X
Santhosh	Kumar Mony	DNV	(281) 721-6608	santhosh.kumar@dnv.com	
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Terry	Lechinger	Stress Engineering Services	281-955-2900	terry.lechinger@stress.com	
Ming-yao	Lee	Chevron	832-854-2116	leem@chevron.com	X
Richard	Leeuwenburgh	Bluewater Energy Services		richard.leeuwenburgh@bluewater.com	
Jean-Luc	Legras	Acergy US Inc	713-300-6550	jean-luc.legras@acergy-group.com	X
Steven	Leverette	Atlantia	281-899-4431	sleverette@atlantia.com	
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Chuck	Miller	Stress Engineering		chuck.miller@stress.com	
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Magne	Nygard	Aker-Kvaerner	713-270-3119	Magne.Nygard@AkerKvaerner.com	
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Attachment 1

CTR Summary

CTR No.	Title / Description	Objective	Budget Amount	Suggested Match Level ¹	Submitted by	Champion	Comments
840A	Hybrid Riser Towers for XHPHT in GOM	Develop the basic design of a Hybrid Riser Tower capable of handling XHP (>20 000psi) and >350F sour service fluid in 10 000' of WD.	\$940,000	1:1	Acergy (Jean-Francois Saint-Marcoux)	Total (Philippe Remacle)	
840B	Fatigue of Carbon Steel Welds for XHPHT conditions	Develop fatigue criteria that better account for stress levels and temperature so that safety factors may be lowered under controlled conditions.	\$1,510,000		Acergy (Jean-Francois Saint-Marcoux)	Total (Philippe Remacle)	
840C	Dynamics of Risers arrays at High Reynolds Number	The purpose of the CTR is to perform test at high Reynolds numbers that will first confirm the results achieved obtained in the sub-critical regime, for a downstream cylinder in the wake of an upstream cylinder.	\$905,000		Acergy (Jean-Francois Saint-Marcoux)		
840D	Fatigue Performance of High Strength Alloy Steel in Seawater	To evaluate the susceptibility of high strength steels, used for riser casing, to stress corrosion cracking (SCC) and HEE in seawater with CP. To determine the low-cycle corrosion fatigue performance of these materials in the form of S-N and da-dN curves, to confidently predict the service lifetime of deepwater risers. To promote a more realistic and less conservative fatigue lifetime evaluation method and develop fatigue assessment guidelines.	\$374,500	1:1	WP Sea (Michel Dib)	Amerada Hess (Craig Edel)	
840E	Large Stroke Dry Tree Tensioner System		\$1,400,000	3:1	Aker Kvaerner		DELETED – same as 840I
840F	Determination of acceptance criteria for weld defects in high-performance SCR's	The purpose of the CTR is to develop a less conservative crack growth analysis model which will be valid for high fatigue performance riser girth welds and would lead to more accurate acceptance criteria related to defects that are detectable with sufficient PoD. This will allow better utilization of the high fatigue performance riser girth welds existing and pursued by the industry, and be based on rational theoretically based acceptance criteria.	\$2,400,000	1:1	Statoil (Steinar Kristoffersen) / Chevron (Pedro M. Vargas)	Statoil (Steinar Kristoffersen) / Chevron (Pedro M. Vargas)	Matching funds proposed as JIP.
840G	Determine Remaining Life of Polyester Rope Moorings	Use full scale rope tests and subrope tests to develop and validate a method to predict remaining life of mooring systems, so that we have proof that insert recovery is not necessary. Use risk and reliability methods to determine the relative risk of insert removal/recovery vs. not recovering inserts. Develop alternative methods (to insert recovery) to demonstrate that installed mooring systems are safe.	\$250,000	4:1	Stress Engineering (Ray Ayers)	BP (Dave Petruska)	Phase 1, cost of phase 2 to be confirmed.
840H	Deepwater Dry Tree Semi Submersible	Develop a semi-submersible floater to support a number of deepwater top-tensioned risers. The semi configuration takes all phases of execution into consideration and the analysis is performed in an integrated manner. The study will optimize the conventional semi to suit the functional requirements of the risers and to utilize the existing capabilities of the industry.	\$1,400,000	4:1	Aker Kvaerner (Leiv Wanvik)		
840I	Large Stroke Dry Tree Tensioner System	Develop a large stroke high capacity tensioning system ready for application in 4-5. The task is to convert an equivalent to today's 5th generation deep water drilling riser tensioning system (that already fulfills the task regarding stroke and tension capacity needs), into a functional and reliable "product assembly" to support a dry production tree system at the deck level.	\$1,400,000	4:1	Aker Kvaerner (Leiv Wanvik)		

CTR No.	Title / Description	Objective	Budget Amount	Suggested Match Level ¹	Submitted by	Champion	Comments
840J	Near Shore Deck Float-Over for Deep Draft Semi	Develop an installation case for a large deck on a deep draft semi using one-barge float-over (float-through) method. Identify critical engineering and operational issues of a float-over installation and develop a float-over installation procedure along with an identification of the required equipment	\$350,000	3:1	Aker Kvaerner (Leiv Wanvik)		
840K	CFD Simulations of Deepwater Riser VIV Responses & Fatigue	Advance the development of a practical CFD tool to predict riser VIV by: 1) establishing the validity of the quasi-3D or layered approach for CFD modeling of VIV response of long risers; 2) develop a fatigue model and investigate the impact of different assumptions on computed fatigue life; 3) investigating the modal nature of riser response to VIV in uniform and sheared flows for top-tensioned and catenary risers; 4) investigate the impact of placement of riser mitigation devices along the riser length	\$220,000	4:1	OTRC (Rick Mercier)		
840L	HPHT Sour Testing: Coupon and Full Scale	Enable improved design of HPHT oilfield equipment, risers, and flowlines and faster monetization of HPHT prospects through increased knowledge of materials behavior in sour HPHT environments.	\$3,500,000	4:1	Stress Engineering (Ray Ayers)		
840M	Riser & Flowline Crack Detection and Sizing Tool	Develop an ultrasonic technique for detecting and sizing cracks in risers and flowlines. Current methods, such as Magnetic Flux Leakage, are not capable of this due to the heavy wall. Conventional Ultrasonic techniques, such as TOFD, for crack detection and sizing have been found to be inadequate for seeing cracks in both tension and compression. The technique identified as suitable for crack detection and sizing would be incorporated into a free swimming inspection tool.	\$7,000,000	4:1	BP (Michael Tognarelli)	BP (Adam Ballard)	
840N	Fatigue Performance of High Strength Riser Materials	Develop fatigue data for High Strength Steels (such as X-80, X-100, C-110, Q-125, C-125, V-140), Titanium (such as Grade 29 and newer alloys) and carbon fiber wrapped pipe (steel and titanium liner) riser materials. The sour service tests for intermediate and full scale specimens will help in establishing the correct scaling parameters for strip specimen results. This will be an evolution from current practice of using knock down factors.	\$6,000,000		BP (Michael Tognarelli)	BP (Steven Shademan / Himanshu Gupta)	
840O	Carbon Fiber Wrapped High Pressure Drilling and Production Riser Qualification Program	Determine, through large scale tests and analysis, if carbon fiber wrapped steel riser pipe (steel/composite hybrid) is suitable for long-term use in the harsh environment of deep water offshore. Specifically, it will establish design methodology and end termination issues, cost effective wrapping method/manufacturing process, and address handling, storage and impact energy absorption capacity, along with long-term durability and fitness for purpose for drilling and production riser applications.	\$1,300,000	3+:1	BP (Michael Tognarelli)	BP (Roy Shilling)	
840P	Advanced Mooring System Truncation for Ultra-Deepwater Model Testing	Evaluate the merit of new truncated mooring models developed at Offshore Model Basin to improve design methods in ultra-deepwater model testing.	\$597,000	4:1	Offshore Model Basin (Nick Markov)	CVX (Ming-Yao Lee)	Matching funds from donated basin time.
840Q	Wave Impact loads on Offshore Installations in Extreme Seas	Enhance the ability to accurately and efficiently predict loads due to extreme waves in steep irregular sea states, using improved, more robust and reliable methods and procedures. A rational use of existing and improved analysis software shall be developed through new knowledge from model test data and field measurements	\$2,000,000	3:1	Marintek (Rong Zhao)		
840R	Robust and Efficient Procedures for Verification of Ultra Deepwater Floater Systems	Establish methods and procedures for on-line, full-depth simulations of model tests with computations/visualization occurring in real-time as the truncated model test is being preformed. Enhance methods and procedures for verification of floater systems with small vessels in ultra deep water.	430,000	3:1	Marintek (Rong Zhao)		

CTR No.	Title / Description	Objective	Budget Amount	Suggested Match Level ¹	Submitted by	Champion	Comments
840S	Riser Tensioner Solutions	To establish functional requirements for a dry tree semi tensioner in 10,000 ft depth. To demonstrate, by analysis, the feasibility and economy in using a SeaTensioner to support 10,000 ft production or drilling riser on a semi. To identify and address the technical issues pertaining to the tensioner manufacturing, installation, operation and maintenance.	\$188,000		WP Sea (Michel Dib)	Amerada Hess (Craig Edel)	\$28,000 in-kind?
840T	Novel Analysis Methods for Vortex-induced Vibration	Identify a handful of realistically viable novel VIV analysis approaches that compare well with full-scale data and could be converted into widely-usable computer programs. Compare selected techniques to full database of monitored drilling riser data and state-of-the-art tools; perhaps collecting more data if it will help to fill gaps which would further the research. Develop preferred analysis method(s) into commercial-grade computer programs.	\$1,500,000	4:1	BP (Michael Tognarelli)	BP (Michael Tognarelli, Rupak Ghosh)	
840U	Lightweight Topsides Development for DW Floaters	Develop an economic lightweight topside concept through an integrated material, design and manufacturing approach, which also addresses key regulatory issues related to fire safety, blast safety and corrosion.	\$1,000,000	4:1	Stress Eng. (Ray Ayers), Alcoa		
840V	Offshore Riser VIV Measurement Program				OTRC		<i>Replaced by 840EE???</i>
840W	Ultra-deepwater Dry Tree System for Drilling and Production in GOM, Phase 1	Define potential and gaps for developing a dry tree semi or alternate hull form to a feasible and competitive floater solution for GOM in 8,000 ft water depth. The study will explore tradeoffs such as: 1) Semi draft that allows quayside integration; 2) Deep draft semi that allows use of “standard” tensioning technology (motions comparable to spar); 3) Topsides installation options such as quayside versus near-shore floatover versus offshore lift. The study will identify gaps and challenges associated with each option including equipment limitations, fabrication, transportation, installation, well-bay layout and HSE considerations.	\$600,000	4:1	CVX (Paul Devlin/Ming-Yao Lee)	CVX (Paul Devlin/Ming-Yao Lee)	
840X	XHPHT Drilling Riser Design	Enhance the relevant technologies and develop a feasible, economical, and reliable system for the XHPHT drilling riser.	\$800,000		Technip (Jin-Sug Chung)		
804Y	New mooring materials and rope configurations for Gulf of Mexico floating and drilling platforms	Quantify the effects of deepwater mooring systems with novel material and rope configurations on Spar and Semi-submersible platforms, including platform motion performance, benefits to a vertical riser system, knock-on benefits to topside layout and drill-floor elevation, mooring system material and installation cost, mooring system maintenance, and possibly hull fabrication (such as elimination of strakes). Evaluate the commercial maturity of high-modulus synthetic fiber used as mooring line material and to evaluate the construction methods required to manufacture mooring lines from these materials.	\$1,062,000		Technip (Jin-Sug Chung)		
840Z	Stranded Gas Management	In order to make isolated fields with small amounts of associated gas economically viable or to enable Early Production Systems without the burden of a pipeline, a technically sound and cost-effective method of delivering gas to market must be developed. This CTR intends to determine the technology readiness of various gas delivery options and to identify the barriers to implementation.	\$327,000		Technip (Jin-Sug Chung)		System's Engineering?
840AA	STEEL CATENARY RISER (SCR) FIELD TESTS	Design, fabrication, and installation of a model SCR riser in 2500-3000 feet of water depth. Measurements will be analyzed with the aim to understand the SCR response in terms of VIV and generals wave response. The focus of the analysis will be the TDP and the hang-off point sections of the SCRs.	\$1,300,000	1:1	Technip (Jin-Sug Chung)		

CTR No.	Title / Description	Objective	Budget Amount	Suggested Match Level ¹	Submitted by	Champion	Comments
840BB	Program to Demonstrate the Extended Draft Platform (EDP) Concept, with Provision for Third Party Offshore Testing	Design, fabricate and install an EDP buoy at a Gulf of Mexico location to obtain EDP load and performance data for use in demonstrating and confirming the design.	\$7,000,000	1:1	Technip (Jin-Sug Chung)		
840CC	Design and manufacture of a test facility to demonstrate system functionality and fatigue crack sizing capabilities of a direct assessment tool for SCR inspection	The aim of this project is to design and manufacture a test facility that can prove the overall functionality of this new generation of ILI tool and demonstrate the fatigue crack sizing capability necessary for the effective inspection and integrity management of deepwater risers. The ILI tool developed by Technip/SIG will complete manufacture in July 2007 and be ready for system and functionality tests prior to operational deployment.	\$1,848,800		Technip (Jin-Sug Chung)		
840DD	Drag-Reducing VIV Mitigators for Drilling Risers	Design a VIV mitigation device that also reduces drag that: (a) performs hydrodynamically; (b) is structurally robust; (c) is lightweight and compact; (d) is easy to handle, store and install; (e) is resistant to (or its performance is insensitive to) marine fouling.	\$2,325,000	4:1	BP (Michael Tognarelli)	BP (Michael Tognarelli)	
840EE	Offshore Riser VIV Measurement Program	The object of this project is to develop and execute a field project to measure VIV on a near-prototype scale riser in uniform and sheared flows in the Gulf of Mexico.	\$8,200,000	4:1	Chevron (Owen Oakley)	Chevron (Owen Oakley)	Phase 1 - \$200,000
840FF	Composite Riser for Ultra-Deepwater High Pressure Wells	Development and field trial of a light-weight drilling/completion riser (a few riser joints) that has a water depth capability in excess of 10,000 feet and a pressure capability in excess of 15,000 psi while at the same time provides a 50% reduction in the in-water weight of a comparable steel riser.	\$5,000,000	4:1	Shell (Tom Walsh and K. Him Lo)	Shell (Tom Walsh and K. Him Lo)	
840GG	Dry Tree Semi Design in Ultra Deep Water and Its Physical Model Tests	Provide alternative dry tree floating production system for ultra deepwater application	\$1,000,000	4:1	Shell (Shankar S. Bhat)	Shell (Shankar S. Bhat)	
840HH	Ultra Deepwater High-Efficiency Anchor	Develop a method to predict the holding capacity of a new anchor design for deepwater application, to propose a cost-effective methodology for its installation, and produce a preliminary design for efficient high capacity anchors for GOM. The design will then be demonstrated in a prototype installation on a project of opportunity.	\$4,442,900		Technip (Jin-Sug Chung)		
840II	Validation and Improvement of Design Tools and Platform Integrity Management	Validate floating system global analysis techniques and model testing verification for ultra-deep water depths. Develop hybrid systems using real-time, full-scale measurements combined with analytic tools to monitor and predict remaining life of components.	\$1,750,000	4:1	Chevron (Ming-Yao Lee)	Chevron (Ming-Yao Lee)	
840JJ	Full Scale SCR Monitoring	To measure the response of the non-straked full scale deepwater SCR and assess the level of conservatism in current design methodology.	\$1,721,700	1:1	2H (Mat Podskarbi)	Petrobras (Cristina Lucia Duarte Pinho)	
840KK	Composite Carbon Thermoplastic Tube Fabrication and Testing for Deepwater Applications	To bring composite thermoplastic tubes from the development phase to a stage where a full size prototype section could be tested in the field for a real application.	\$3,055,000	4:1	Doris (Bill Hudson)	Total (Philippe Remacle)	
840LL	Galvanic Corrosion Coupling in SCRs	Develop a testing program and modeling to quantify galvanic corrosion effects between dissimilar materials used in SCR construction, determine the length of carbon steel affected by galvanic coupling, and assess the propensity of preferential weld corrosion in presence of the galvanic couple.	\$755,350	3:1	DNV (Afzal Hussain)		
840MM	Dry Tree Semi Enabled by CVAR Technologies: Qualification of CVARS to RPSEA criteria	Develop and qualify the dry-tree Semi using CVARs.	\$500,000	4:1	Granherne (Rajiv Aggarwal)		

CTR No.	Title / Description	Objective	Budget Amount	Suggested Match Level ¹	Submitted by	Champion	Comments
840NN	Early Stand Alone Cost Effective Injection Well System	Develop a cost effective way to provide a stand alone injection system for the deep water GOM environment to greatly enhance the optimization of many deep and ultra-deep water oil fields. The proposed water injection system could be deployed on a cost effective, dynamically positioned vessel (not an FPSO or FPU), which could easily be disconnected in case of hurricanes, re-deployed, and have the flexibility to quickly return to shore for servicing of the vessel and equipment.	\$3,562,000		Anadarko (Jenifer Tule Gaulden)	Anadarko (Jenifer Tule Gaulden)	Referred to flow assurance committee
840OO	VIV Analysis and Modeling Program	Using the high L/D data from the 7402/8402 offshore tests as the primary datasets, the project will develop a high quality case matrix suitable for software verification and distribution, characterize the responses to fully understand the VIV behaviors, develop advanced CFD techniques and models specific to VIV and develop user guidance.	\$1,000,000	4:1	Chevron (Owen Oakley)	Chevron (Owen Oakley)	Continuation of CTR 8402 (data analysis phase)
840PP	Integrated Drilling and Production Dry Tree Semi for HPHT and Heavy Oil Developments in Ultra-Deep Water	Develop a fully integrated design for drilling, completion, and production of HPHT and heavy oil lift in ultra-deep water. The design will address downhole, subsea, riser, and supporting floater structure issues.	\$1,081,620		Floatec (Christopher M. Barton)		
840QQ	Deepwater Production Riser Systems for 15ksi Service – Riser Hardware	Enable production on 15ksi wells in deepwater using top-tensioned risers. The project will start on a solid foundation of existing 10ksi riser component designs and build upon it.	\$2,800,000	4:1	Vetco Gray (Amin Radi)		
840RR	Deepwater Drilling Riser Systems for 10ksi Service – Floating Production Platform Riser Hardware	Enable drilling on 10ksi wells in deepwater large diameter (~22”) risers from a floating production platform. The project will start on a solid foundation of existing 10ksi riser component designs and build upon it.	\$1,330,000	4:1	Vetco Gray (Amin Radi)		
840SS	RIG ASSIST - HWO STANDARDS NEEDED TO ALLOW ACCESS TO HPHT WELLS	To define what is necessary to adapt HWO equipment to be installed and used, quickly and safely, on floating drilling/production vessels.	\$450,000	4:1	Granherne (David B. Andersen)		Referred to 8500 committee (drilling / completions)
840TT	Cataloging and comparing integrity management tools and strategies to support standardization and gap analysis	To catalogue tools available to manage the integrity of offshore assets (monitoring, inspection, maintenance, repair); Identify the most and least effective IM tools; and identify gaps in IM technology.	\$300,000		Technip (Ron de Jong)		