

OMAE2006

JUNE, 7th, 2006

OMAE2006 WORKSHOP

**THE PENDULOUS INSTALLATION METHOD (PIM) FOR THE DEPLOYMENT  
OF HEAVY SUBSEA HARDWARE IN ULTRA DEEPWATER**

by

**PETROBRAS, FMC CBV SUBSEA and COPPE/UFRJ**

**CHAIRPERSONS**

Maxwell Brandão Cerqueira (PETROBRAS)  
Milton Villas Boas Segura (FMC CBV SUBSEA)  
Antonio Carlos Fernandes (COPPE/UFRJ)

9:00-9:30    **1 The Need for the Pendulous Installation Method**

Maxwell Brandão de Cerqueira (PETROBRAS)  
Edson Luiz Labanca (PETROBRAS)  
Luiz Eduardo Peclat (PETROBRAS)

9:30-10:00    **2 Pendulous Installation Method Prospective Model  
Testing and Numerical Analysis**

Antonio Carlos Fernandes (COPPE/UFRJ)  
Melquisedec Franciso dos Santos (COPPE/UFRJ)  
Mario Ribeiro (FMC)

10:00-10:30    **3 Numerical Analyses and Sensitivity Studies for  
Development of the Pendulous Method**

Francisco Edward Roveri (PETROBRAS)  
Eduardo Vardaro (PETROBRAS)

**COFFEE BREAK**

11:00-11:30    **4 Estimation of the Added Mass and Drag Coefficients Relevant for the Pendulous  
Installation Method by Several Experimental and Numerical Methods**

Antonio Carlos Fernandes (COPPE/UFRJ)  
Fábio Pompeo da Silva Mineiro (COPPE/UFRJ)  
Melquisedec Franciso dos Santos (COPPE/UFRJ)  
Mario Ribeiro (FMC)

11:30-12:00    **5 Subsea Manifold Design for Pendulous Installation Method in Ultra Deep Water**

José Américo Ney Ferreira (PETROBRAS)  
Mario Ribeiro (FMC)  
Milton Vilas Boas (FMC)

12:00-12:30    **6 Installation of Deepwater Manifolds by the Pendulous Method under the Light of  
Deep Ocean Basin Model Testing and Numerical Verification**

Antonio Carlos Fernandes (COPPE/UFRJ)  
Cassiano Rodrigues Neves (COPPE/UFRJ)  
Joel Sena Sales Junior (COPPE/UFRJ)  
Melquisedec Franciso dos Santos (COPPE/UFRJ)  
Luiz Eduardo Peclat Bernardes (PETROBRAS)  
Mario Ribeiro (FMC)

**LUNCH**

14:00-14:30    **7 Roncador Field Subsea Manifold: a Risk Analysis Approach  
to Verify the New Installation Procedure**

Mariele Lima Kuppens (PETROBRAS)  
João Luis Batista da Silva (PETROBRAS)  
Flávio José da Cunha Pereira Pinto (PETROBRAS)  
Maria das Graças Ribeiro Cantarini (UTC)

14:30-15:00 **8 Pendulous Installation Method - Report of the Full-Scale Offshore Test**

Pedro Felipe Katrein Stock (PETROBRAS)  
Rogério Diniz Machado (PETROBRAS)  
José Américo Ney Ferreira (PETROBRAS)  
João Luis Batista da Silva (PETROBRAS)

15:00-15:30 **9 The Present Status of the First Use of the PIM Method in a Deepwater Field**

Maxwell Brandão de Cerqueira (PETROBRAS)  
Francisco Edward Roveri (PETROBRAS)  
Luiz Eduardo Peclat Bernardes (PETROBRAS)

**COFFEE BREAK**