20th Offshore Symposium 2015

Future Offshore Technology and Sustained Reliability

Houston, Texas, USA 17 February 2015

ISBN: 978-1-5108-2142-2

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2015) by Society of Naval Architects and Marine Engineers (SNAME) Texas Section All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact Society of Naval Architects and Marine Engineers (SNAME) Texas Section at the address below.

Society of Naval Architects and Marine Engineers (SNAME) Texas Section c/o Arun Antony, Suite 350
15990 N. Barkers Landing Drive
Houston TX 77079
USA

Phone: (281) 877-6403 Fax: (281) 877-6797

aantony@houston-offshore.com

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com



SNAME OS15 16

Herman Schellstede Herman Schellstede Associates

The 20th Offshore Symposium

Future Offshore Technology and Sustained Reliability
Houston, Texas





htt // Title Paper No. **Opening Session** Optimized Structural Integrity Management Based In Design SNAME OS15 01 Dan Gallagher, Nicole Rush Energo-KBR Simplified Spudcan and Soil Interaction Analysis for Jackup Touch-Down SNAME OS15 02 Gwo-Ang Chang, Meng-Lung Liu ABSProposal for IMO Stability Criteria During Loss of Load Event 31 SNAME_OS15_03 Koos Hoefakker, Roel, Thijs Velner Big Lift Shipping Morning Session 1: Mooring Session-1 **Advances in Mooring Integrity Management** SNAME OS15 04 Andrew Kilner, Chris Carra, Andrew Potts, Tim Lee AMOGTwo Novel Concepts for Two Applications of a Disconnectable Mooring System SNAME OS15 05 Maas Hoogeveen SBM Offshore Governing Locations of Offshore Mooring Fatigue Design Yongyan Wu, Tao Wang, Rolf Eide SNAME OS15 06 Aker Solutions Morning Session II: Wind Loading Wind Shielding Estimation of a Tandem Vessel Using Disturbed Velocity Field from CFD SNAME OS15 07 Arjen Koop, Bruno Rossin, Wei Xu, Arjan Voogt MARIN, University of São Paolo Wind Loads Evaluation Using a Numerical Wind Tunnel SNAME OS15 08 Y. Andrillon, L. Berry, E. Jacquin, P. Bigay, A. Ledoux, Nicolas Legregeo HydrOcea, Total, BV Stability Using Conventional Wind Calculations and Wind Tunnel Tests: A Comparative Study SNAME_OS15_09 Ivan Simic, Bret C. Montaruli, Andy Breuer ABSProposed Modifications to SNAME Guidelines for Wind Tunnel Testing of MODUs 122 SNAME OS15 10 Jorge Martinez, Harris Reynolds JLM-LLM Consulting, Diamond Offshore Morning Session III: Hydrodynamics /CFD PIV vs. CFD for flow around cylinder SNAME OS15 11 Guangyao Wang, Ye Tian, Spyros A. Kinnas University of Texas at Austin Coupling of 3D Numerical Solution Method Based On Navier-Stokes Equations with Solutions Based on Simpler 180 Theories SNAME OS15 12 Prof. M. Peric, S. Enger, T. Yen, A. Read CD-adapco $Characterstic\ Responses\ of\ a\ Dry\ Tree\ Paired-Column\ and\ Deep\ Draft\ Semisubmersible\ in\ Central\ Gulf\ of\ Mexico$ SNAME OS15 13 Suvabrata Das, Jun Zou Houston Offshore Engineering How much do offshore platforms VIM? 221 SNAME_OS15_14 Igor Prislin, Phil Hart, Iliana Jimenez, Jimmy NG BMTMorning Session IV: Renewable VolturnUS 1:8 – Successful Completion of 1 ½ Years of Testing the First Grid-Connected Offshore Wind Turbine in the Americas 230 SNAME OS15 15 A. Viselli, H. Dagher, A. Goupee, C. Allen, and C. Libby University of Maine

Future Offshore Technology and Sustained Reliability (Wind Renewable Energy) 243

1		
<u>SNAME OS15 17</u>	Aerodynamic Effects on Global Responses of 5MW Three-Column TLP Wind Turbine 262 Ikpoto Udoh, Jun Zou, Sung Youn Boo, Vimal Vinayan Houston Offshore Engineering	
SNAME_OS15_18	Statistical Condensation of Meteorological Ocean Data for Wind Turbine Design Shu Dai, Bert Sweetman Texas A&M University College Station	
	Afternoon Session 1 : Mooring Session-2	
SNAME OS15 19	Weathervaning Characteristics of a Turret Moored FPSO in Squalls Suqin Wang, Ping Lu, Emilio Lupi ABS, University of Genoa	
SNAME_OS15_20	Trenching Effects on Holding Capacity for In-service Suction Anchors in High Plasticity Clays F. G. Hernandez-Martinez, M. Saue, K. Schroder, H.P. Jostad NGI	
SNAME OS15 21	Microbiologically Influenced Corrosion (MIC) of Mooring Systems: Diagnostic Techniques to Improve Mooring Integrity Tim Lee, Prof. Robert Melchers, Dr. Iwona Beech, Andrew Potts, Andrew Kilner AMOG, Univ of Oklahoma, Univ of Newcastle	
SNAME OS15 22	Mooring Standards – The past, Present, and Future 355 Tom Kwan Kwan Engineering Services	
	Afternoon Session II: Drilling and Subsea	
SNAME_OS15_23	Two are Better than One: A Hydrodynamic and Structural Case Story 369 Gianni Scherl and Paolo Sodomaco FINCANTIERI Offshore	
SNAME OS15 24	Reduce the Operating Downtime of Drilling Riser by Finding More Operate-Able Environments Using Riser Analysis Shiyu (Frank) Chen, Wen He ENSCO, Southeast University-China	
SNAME OS15 25	Dynamic of A Vertically Dropped Flexible Jumper in Deep Waters 396 Arya Majed, Shankar Bhat Intecsea	
SNAME_OS15_26	The Modeling and Simulation of Coupled Subsea Tieback and Stepout Milton Korn, Shilpa Mesineni, Weiguang Hu ABS 404	
Afternoon Session III: FPSOs and Arctic		
SNAME OS15 27	Optimization of Conical-Shaped Gravity Based Structure in Various Ice Features Jay Purohit, Jun Zou Houston Offshore Engineering	
SNAME_OS15_28	Prediction of performance of ducted propellers and thrusters Hongyang Fan, Ye Tian, Spyros A. Kinna University of Texas at Austin	
SNAME OS15 29	Oil Export Offloading Buoy System : Design Approach Revisited 456 Upendra Mall, Krishna Karri, Naresh Koyyapu Granherne-KBR	
SNAME OS15 30	Integrated Monitoring and Advisory System Design for a Submerged Soft Yoke Moored FPSO Dexu Jiang, Zhiyong Su, Chao Liu, Hui Shen, Yong Luo, Yigong Zhang COTEC Offshore Engineering Solutions 465	
	Closing Session : Asset Life Extension	
SNAME OS15 31	Integrity Management of Ageing Offshore Assets: An Integrated Approach Towards Life Extension and Operational 476 Efficiency Jonathan Boutrot, Nicolas Legregeois BV	
SNAME OS15 32	Continued Service of Floating Offshore Structures 490 Dan Gallagher, Nicole Rush Energo-KBR	
SNAME_OS15_33	Considerations for Mooring Life Extension 496 Robert Gordon DNV-GL	
SNAME OS15 34	Riser and Subsea Offshore Asset Field Life Extension 504 D. Nashikkar, W. Mo, V. Achanta, S. Lyon, 2H Offshore	
	Papers in Proceedings Only: Marine Engineering and Materials	

SNAME OS15 35	FPSO Propulsion Machinery Reliability Analysis – A Systematic Approach Asif Munir, Harshil Shah SBM
<u>SNAME_OS15_36</u>	Advance Corrosion Resistance Nickel-Alloys for Marine Applications Including Cryogenic Service 524 Ed Hibner National Speciality Alloys
SNAME OS15 37	The Use of Glass Reinforced Epoxy Piping for Fire Water Applications on Offshore Facilities Stephen Ching NOV 535
	SYMPOSIUM SPONSORS