Hydrostatic and dynamic analysis of semi-submersible according to different column configuration for design optimization

Jungmu Lee(longman00@naver.com)
University of Strathclyde

Abstract

1. Introduction

Drilling Semi Rigs which had recently been delivered had all weight increase problem – Inclining experiment and Lightweight
measurement indicated a heavier than expected (in weight report) light unit weight.
consequently, they all could not avoid attaching sponsors and blisters to its pontoon and column at the delivery stages
(Moss CS60 type , built by Samsung, Hyundai, Jurong (China) and Hyundai Samho and Songa projects built by DSME)
Key points 1. It is frequent situation of semi-rig light unit weight to increase more than expected during construction stage
2. It is huge impact to yards and operator to attach buoyancy objects in final stage

2. Aim and object

* Aim
- Not to attach buoyancy objects (sponson and blister) to Semi Rig at final construction stage
* Objectives
- to achieve appropriate KMT, KML value in terms of Variable Deck Load
- to achieve appropriate rig motion in terms of Heave Motion in harsh environment

3. Approach

- introducing blister configuration into initial design;
To increase KMT, KML in operation / Survival draught, blister configuration will be introduced in initial design
(The purpose of this is to prepare countermeasure to weight increase problem in advance according to
previous several experiences)

Keywords: *Semi-submersible, stability, hydro dynamic*

Biography

- 1999 ~ 2005 : Pusan National University
- 2006 ~ : Samsung heavy industries
- 2018 ~ 2019 : MSc student of UoS