

Kiel6000 Trials

RRS James Cook JC65T

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OFEG-TECH 2011
NOC

Requirements and objectives

- In January 2011 the ISIS ROV was severely damaged during a deployment in the Southern Ocean rendering it inoperable until the summer of 2012.
- To enable the JC66 & JC67 cruises programmed in 2011 to remain viable, it was proposed to barter the Kiel6000 ROV to support the cruises, and to install and operate the system from the RRS James Cook.
- It was planned to Install and commission the Kiel6000 deployment system, winch, control containers & lab display array in Tenerife for a trials cruise on passage to Cape Verdes prior to the JC66/67. The science cruises were programmed to mobilise in Cape town, SA.
- The ships stern gantry was modified (during refit prior to the mobilisation) to support the installation of the Kiel6000 handling frame, and load and function tests of the modified stern gantry ROV deployment installation were planned for the trials mobilisation.
- The trials cruise was planned to deploy and operate Kiel6000 to 4000m water depth; and to train and familiarise NOC and IFM-GEOMAR staff with the ROV and ships systems in preparation for JC66/67

Kiel6000 plus deployment system installed on RRS James Cook



ROV ready
to deploy
for Tenerife
dock trials

Dock deployment trials in Tenerife



Dock deployment trials in Tenerife



Dock deployment trials in Tenerife



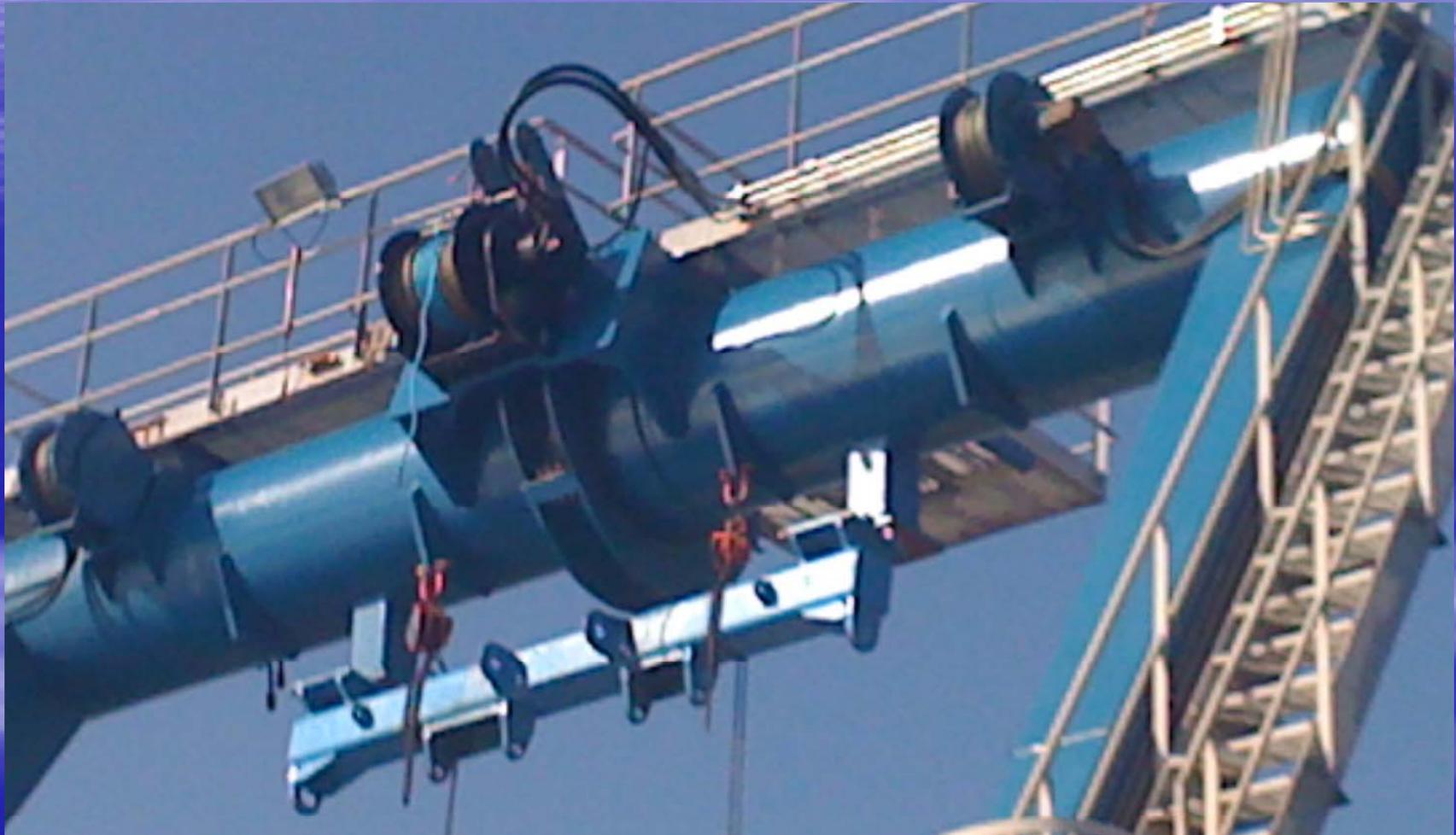
Dock deployment trials in Tenerife



Kiel600 successfully recovered to deck



Original fame hanging arrangement with gantry in the inboard position



Original fame hanging arrangement with gantry in the inboard position



Kiel6000 handling system showing torque inducing deflection/rotation of handling system under load



Modifying ROV deployment frame hanging beam





Modified deployment frame hanging points

Modified deployment frame hanging points



Modified deployment frame hanging points



Deck winch to constrain frame movement when under load



Deploying Kiel6000



Deploying Kiel6000



Proof that we got there in the end.....!



First three
football
floats
attached
to wire

Preparing second set of football floats for deployment



Deploying second set of football floats



Overview

- The modified deployment system operated well for the trials cruise but.... the system should have been load and function tested prior to the mobilisation....lack of time and project oversight is a factor in not doing this!
- We encountered some further problems with the winch power supply due to issues of compatibility with the ship's 415V supply, these problems were resolved onboard.
- Although delays were incurred for modification to the deployment handling system and the winch power problems, Kiel6000 was deployed successfully and training carried out to enable us to move forward to JC66/67 with greater confidence.
- JC66 has thus far deployed Kiel6000 6 times to this point on JC66 with positive results.