A New Method for the Crawler Crane Down to the Dock

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ABSTRACT

In fabrication process of offshore structures, it is needed to lift the crawler crane down to the dock to perform erection work in some cases. In conventional way, the crawler crane shall be taken apart prior to lifting down to the dock, and then assembled together, which will significantly increase the project duration and cost. In this paper, a new method is proposed to lift crawler crane down to the dock, where a tray is designed to place the crawler crane and thus it enables the fabricator to lift the crawler crane down to dock as a whole without time-consuming detaching and mounting process. Through actual practice, it is proved that the method proposed by this paper possesses advantages of less time taking and low cost compared to conventional one and can fully meet the project requirements. This experience will benefit future applications.

KEY WORDS: Crawler crane, lift down, dock

INTRODUCTION

There is a lot of lift works in dock during the fabrication process of offshore structures, gantry cranes are widely used for dock lift in most yards. However, lifting only by gantry cranes can not guarantee the tight schedule goal in some cases, usage of economical lifting equipments to fill the lift resource shortage is required. To solve the problem, crawler crane is usually taken apart, and then assembled together after all of the components are transferred down to the dock. Although it is practical and can fill the lift resource shortage, it takes 5–7 people 8–12 days to complete the whole transferring process for one single crawler crane, that means enormous time and human resources have to be devoted. Obviously, it is not an economical way.

Aiming at reducing the time taking and cost in lifting crawler crane down to the dock, this paper proposes a new transferring method where a tray is designed to place the crawler crane that enables the fabricator to lift the crawler crane down to dock as a whole by gantry crane. The slopes designed for assisting the crawler crane to move onto the tray are introduced as well.