

THE MARLIN TLP: MEASURED AND PREDICTED RESPONSES DURING HURRICANE IVAN

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ABSTRACT

The Marlin TLP uses an extensive monitoring system to measure the environment and platform responses. These measurements are used as an aid in platform operations and are also important for use in verifying analytical models of platform global performance. Marlin's measurements include a comprehensive, high quality dataset recorded during Hurricane Ivan, an intense hurricane that passed through the Gulf of Mexico in September 2004. The eye of Ivan passed directly over Marlin resulting in wind and wave conditions substantially greater than the 100-year design hurricane. Measured response data are presented. These measured data are compared to both the design level responses and to predicted responses from a fully coupled frequency domain simulation of the TLP, including all tendons and risers, using hindcast environmental conditions as input.

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