

## **Influence of Mooring Conditions on Side-By-Side Offloading System Safety Performance**

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**Abstract :** Based on three dimensional potential flow theory, hydrodynamic response analysis is carried on the multi floating bodies system composed of FPSO moored with yoke and shuttle tanker. It considered hydrodynamic interaction between FPSO and shuttle tanker, interaction between the hull and yoke mooring systems, hawsers, fenders, and then focuses on hawsers of the side-by-side offloading system. The influence of hawsers parameters on system safety is studied in respects of hawser stiffness, length and arrangement. Through analysis in different environment conditions and two typical loading conditions, it can be found that a better safety performance can be achieved through these three ways including enlarging the number of hawsers as well as the stiffness of hawsers, changing the length and arrangement of hawsers.

**Keywords :** yoke mooring, side-by-side offloading, multi floating body, hawser, safety

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