

DYNAMIC ANALYSIS AND DESIGN OF JACKET TOWERS IN OFFSHORE STRUCTURES

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ABSTRACT

With the increase in demand for offshore wind energy, the need for offshore structures for supporting wind turbine is increasing. As offshore structures produce 50% of more energy compared with on shore structures, our project is one such design of Jacket tower. The four legged jacket tower is supported by a concrete platform. As the tower is under the action of current and wave loads, the tower is analysed for dynamic conditions using SACS software. X bracings are adopted to resist the lateral loads. The wind and the seismic loads are calculated and analysed using STAADProV8i. The results from the analysis are used for the foundation design using STAAD Pro Foundation. From the analysis and design it is found that the tower seems to be safe under dynamic conditions.

KEYWORDS: *X Bracings, Dynamic Loading, STAAD ProV8i, SACS, Current Load, Load Wave*

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