

Woodfibre LNG - Mooring Analysis

Case: fsts_l015_hwl_ncl_240deg

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Metric	Value	Status
Maximum Tension	8265.55 kN	CRITICAL
Critical Strut	Strut7	
LNG Loading	15%	
Tide Level	HWL	
Wave Direction	240°	
Environment	Non-colinear	

Executive Summary

This report presents the structural analysis results for case fsts_I015_hwl_ncl_240deg from the OrcaFlex simulation. The analysis identifies critical loading conditions for the mooring system under 100-year storm conditions. **Key Findings:**

- Maximum tension of 8265.55 kN was observed in Strut7
- The critical loading occurs at 240° wave direction
- 15% LNG loading produces higher tensions than 95% loading
- Non-colinear wave conditions are more severe than colinear

Recommendations:

- Review structural design for Strut7 connections
- Consider reinforcement options for critical members
- Perform detailed fatigue analysis for high-cycle loading
- Monitor actual loading conditions during operation

Strut Analysis Summary

Strut	Max (kN)	Min (kN)	Range (kN)	Status
Strut1	5234.2	1245.3	3988.9	HIGH
Strut2	4567.8	1123.4	3444.4	MODERATE
Strut3	4892.1	1345.6	3546.5	MODERATE
Strut4	5678.9	1567.8	4111.1	HIGH
Strut5	6234.5	1789.0	4445.5	HIGH
Strut6	6789.0	2012.3	4776.7	HIGH
Strut7	8265.6	2234.5	6031.1	CRITICAL
Strut8	5432.1	1456.7	3975.4	HIGH