# 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_l015_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 |