



GURPREET GREWAL

BEng

Managing Naval Architect, Marine Engineer

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Gurpreet Grewal is a Naval Architect for Brookes Bell with a range of experience in marine operations and analysis. His first employment was as a seagoing marine engineer and he has accumulated ten years of experience at sea on container ships, car carriers and LPG carriers. Whilst working as a marine engineer, he also carried out conversion and commissioning work on seismic vessels in the North Sea. He re-trained as a Naval Architect, achieving his Bachelor of Engineering in 2009 before commencing his PhD on the topic of breaking wave impact loads and structural response. He has undertaken structural and fluid dynamics analyses on a number of legal cases, most notably on the cause of the structural failure of a tanker due to wave action.

Academic Qualifications

PhD. Research Naval Architecture and Marine Engineering - "Breaking wave impact loads and structural response" - Universities of Strathclyde & Glasgow

BEng. Naval Architecture and Ocean Engineering - Universities of Strathclyde and Glasgow

Class 5 Motor Certificate of Competency (issued by Singapore MPA, equivalent of MCA Class 4)

Diploma in Maritime Studies (Marine Engineering) - Singapore Polytechnic

Previous Employment History

Universities of Strathclyde and Glasgow - PhD Researcher, Dept. of Naval Architecture and Marine Engineering

Dissertation: Breaking wave impact loads and structural response

Responsibilities included the teaching of marine engineering courses and forensic structural and hydrodynamic analyses for court and arbitration. Contributed to research on the dynamics of wave impacts.

Sea-Going Employment

Marine Exploration Partners A.S. (Norway) - Project Engineer

Carried out work on the conversion, commissioning and operation of seismic ships including mechanical design and structural layout.

A.P. Moller MAERSK A.S. (Denmark) MAERSK Line - Second Engineer

Served on ultra large container ships, car carrier and LPG tanker

Engineering and Consultancy Experience

Finite Element Analysis (FE)

- Dynamic FE analyses to investigate the initial cause of damage to MV Prestige due to wave action.
- FE analysis of hull girder failure of a large container ship in rough weather.
- Explicit Finite Element analysis for ship impact.
- Structural analysis of grounding damage to a bulk carrier.
- Resonance analysis of a wind farm jack-up vessel in waves using FE.
- Investigation into hull failure of tanker during ballasting.
- Container stack collapses and lashing failures using FE analyses and Class rules.
- Rudder and aft peak fatigue studies of a bulk carrier and tanker.
- FE modelling of a grounded bulk carrier to assess salvage plans.
- FE of hull collapse of a large ore carrier.
- Analyses of crane failures (slew bearing, jib and winch).
- Stress analysis of offshore machinery failure

Computational Fluid Dynamics (CFD)

- Simulating focussed breaking wave impacts on ship side to assess hull loads.
- Verification and validation studies on the use of CFD for ship resistance.
- Open-water tests and ship/propeller interaction using Computational Fluid Dynamics (CFD).
- Prescribed motion manoeuvre (PMM) tests using CFD.
- CFD modelling of a container ship stern thruster for blade failure analysis.
- Tank testing of focussed and irregular wave generation and resulting impacts.

Seakeeping

- Mooring analysis of a tanker during discharge operations.
- Design analysis of a novel Marine Evacuation System in rough weather.
- Analysis of Containership seakeeping models for Container stow collapse.
- Parametric and synchronous roll studies of container vessels in irregular seas.

Mathematical Modelling & Computer Aided Design

- Partial capsizing of car carrier and cargo shift in a channel of a ferry using roll equation modelling.
- Wave modelling.
- Automated CAD modelling of propeller from propeller series or ship data.
- Hull modelling of various types of vessels.
- Processing of Laser scan data.

Expert Witness Testimonies in the Previous 4 Years

Gurpreet has not previously given either deposition testimony or trial testimony in the US.

2022/23 – Schedule of Legal Fees**Mr. Gurpreet Grewal**

Review of Documents: £240/hr

Court/Deposition Testimony: £240/hr

Plus, necessary expenses as incurred.