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Build the boat around the people

Introduction

- Title stems from a contribution to an article in Defence Procurement International magazine – Winter 2013 edition
- Focus of this presentation has changed from procurement to human factors, design and legislative issues
- References: High Speed Craft Human Factors Engineering Design Guide and Designing Consoles for Speed

History

- Biggest single influence in the high-speed boat operating environment has been the development of the RHIB
- Still the vessel of choice for professional and military boat operators around the world
- Has seen incremental design changes and improvements yet remains fundamentally unchanged
- Has to be a workhorse and a racehorse combined
- A benchmark vessel – BUT.....

Present day

- Greatly increased exploitation of the maritime and littoral environments
- Massive technological advances in high speed vessel (hull) design and construction
- Huge investments in CAD, CFD and other programmes to be able to predict vessel performance, handling and seakeeping characteristics
- Increased demands and expectations from vessel owners and operators
- “Faster, harder, further, longer” - becoming the norm

Considerations

- It is the people operating a high-speed boat who can maximise its potential
- An exponential increase in workload for high-speed vessel crews is leading to physical and mental stress
- Looking at the boat crew as part of a system, it is rapidly becoming the single point of failure
- The “hidden” life-cycle costs associated with people on board high-speed craft are very significant
- Damaging those people will attract additional financial penalties and human costs
- More should be done to protect this investment

Remedial actions

- Place more emphasis on human factors
- Develop a greater understanding of ergonomics
- Adopt an integrated approach to the design of operator and passenger work-spaces and accommodation
- Align investment in research and development of new technologies to combat the effects of shock and vibration with that of hull design

Duty of Care and Legislation

- Definition of Duty of Care: “a moral or legal obligation to ensure the safety or well-being of others” e.g. employers **have a duty of care to their employees**
- Current legislation is poorly framed and not robust enough
- Obligations and responsibilities are not clearly defined
- No national obligation to adopt EU Directive 2002/44/EC as law
- EU Directive is not relevant outside the EU

Liability

- In general terms, a legal minefield
- No clear distinction about who is liable for what in the event of a serious accident or fatality
- Complex audit trail in the event of an incident
- No regulation

Legislation - the way ahead

- Its development should be industry led
- Should incorporate Class Societies
- Must be holistic
- Should set clear and measurable standards
- Should lead to the framing of relevant legislation

Future challenges

- Ensuring that human factors remain a prime consideration in high-speed boat building design
- Ensuring that legislation keeps pace with developments in technology
- Preventing the exploitation of high-speed boat crews who operate outside the boundaries of a strong legislative framework

Questions?