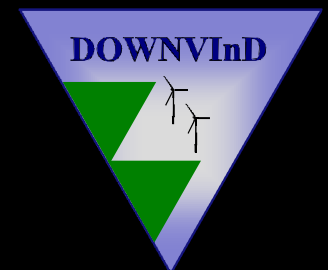




Beatrice Windfarm Demonstrator Project Safety Considerations

All Energy - 26th May 2005



Safety Considerations

- Regulatory Regime
- Access and Egress System
- Safe Refuge Facilities
- Installation

Regulatory Regime

- Consent achieved through the existing Oil & Gas licence for Beatrice Field
- Oil & Gas legislation will be used as a framework
- The BWEA “Guidelines for Health & Safety in the Wind Energy Industry” shall be utilised as industry best practice reference.
- Looking to develop a Safety Case type document for wind turbines

Access and Egress

- Access and Egress Selection Methodology
 - Strong presumption to use current ERIC based on Beatrice platform
 - Access system on operational requirements only
 - Selection team includes small boat specialists, industry experience, safety experts, risk assessment experts

- Selection Process
 - Review and collate current Access practice
 - Research safety records, accident and incident rates and causes.
 - Define boat operating envelope
 - Selection by formal team risk assessment.

Access and Egress Options



Access and Egress Options



Safe Refuge Specification

- Assumptions:
 - No planned overnight stays
 - Transfer only on good weather forecast
 - Likely maximum of 4 stranded personnel
 - Access to Safe Refuge for distressed sailors

- Facilities Provided:
 - Folding beds
 - Heating, lighting, and domestic power
 - Toilet, WHB, H&C Water. Macerator
 - Table, chairs and emergency equipment

Beatrice Windfarm Demonstrator Project

- Depth of water 45m
- Sea bed to Rotor Centre 133m



Design and Installation Safety Issues

- Minimise number of lifts
- Diverless Installation
- Safe System of Work
- WTG personnel working in North Sea offshore environment
- WTG Specifications to North Sea offshore expectations

Installation Methodology

