

LONDON BRANCH

Windfarm vessels – operational challenges

→ The December technical meeting of the London Branch continued the theme of the challenges of operating different types of vessel. In this session we looked at windfarm vessels.

More than 60 people turned up on board HQS *Wellington* to listen to a panel chaired by John Lloyd FNI, CEO of The Nautical Institute. The panel comprised Mike Vanstone, Head of Marine Operations at Vattenfall; Ian Baylis, MD of Seacat Services; Hugo Cook, a serving Master with Seacat Services; and Mike Frampton, Renewables Director at LOC.

Mike Vanstone set the scene, describing the evolution of crew transfer vessels (CTVs) from monohull to catamaran; the latter are faster and more stable. Windfarms have moved farther offshore, but faster craft enable quicker transfer of technicians to the workplace. The transfer to the field should take no longer than 1½ hours, as this is maximum time for comfort for the technicians before they start a six-to eight-hour work day on a wind turbine.

Today, the average speed of vessels is 28–30kt, although the new generation of air-cushioned catamarans now entering service is capable of up to 50kt. Seasickness can be a problem so vessels are designed to be as stable and comfortable as possible. Seating must be shockproof and cushioned and the vessels should have communication facilities so technicians can continue working during the journey.

Ian Baylis explained that Seacat Services operates a fleet of 14 CTVs, from 21 to 27 metres in length, with 'step-to-work' capabilities. The catamaran pushes on to the turbine using motion-compensating fenders and the technicians can then step on to the turbine ladder. The vessels can carry up to 12 passengers (technicians) in addition to the crew. Implementation of the new HS-OSC Code means that CTVs will be able to carry more technicians, because they will be defined as industrial personnel.

Windfarm operations are driven by commercial considerations, so availability to the client is the priority. The windfarm industry is still young, so it takes personnel from other parts of the maritime industry. Availability to enable the turbines to keep producing energy is the *raison d'être* and to achieve this, good boats, very high standards and well-trained crews are essential.

Hugo Cook gave the view from the bridge. Working on a CTV is a really hands-on position. Usually there is a crew of three – Master, mate and deckhand. It is very important to have good communications with the technical support back at base to resolve any issues when

out at the windfarm. There is no overnight accommodation on board and crews are rotated on a shift pattern. As the industry moves farther offshore, accommodation is increasingly being provided in floatels, which offer more comfortable surroundings for technicians.

Mike Frampton spoke about issues of access to windfarms and carrying out warranty surveys in both the construction and operational and maintenance phases. During the construction phase, access is preferably by fixed gangway. The industry has moved away from conventional boat landings, in which landings were limited by sea/tide direction and wave heights, and now uses vertical ladders and CTVs. The ladders have 'bumpers' against which the CTV rests, and are designed to take transfer force from the CTV – up to 80% of power. Technicians can step across on to the ladder. The vessel captain has to keep an eye on the weather during the time the technician is on the turbine. It is easier to climb up than down, and the step back from the ladder down to the CTV may be difficult if the weather deteriorates. Also, crew transfer back on to the vessel must be completed before dark.

Walk to work systems are becoming more popular for getting on and off the vessel, and Mike showed an example of the Ampelmann motion-compensated gangway system, although this is more often seen on an OSV. Farther offshore, the longer passage time and reduced time available for work mean that use of a CTV is less efficient.

Following the presentations, discussion and questions were open to the floor. These mostly focused on safety issues. The industry as a whole has an excellent safety record. There are approximately 465 CTVs in the system, carrying out a total of 50,000 transfer operations with no accidents or significant injuries. Crew transfer vessels conduct safety drills as per SOLAS and carry out emergency evacuation drills with RNLI lifeboats and helicopters. CTVs carry Jason's cradle, SB rescue slings and a crane for rescuing people from the sea.

Technicians have to comply with safety requirements for vessels and for turbines. The industry needs to balance these requirements against the technicians being so overloaded with equipment that it is difficult to get on and off the CTV and up and down the ladders. This is an inherently risky task. Technicians must be pragmatic and make risk assessments for climbing vertically up 70–80 metres.

It is unlikely that CTVs will become autonomous in the near future, as there need to be eyes and experience at the 'sharp end'. Once again, time ran out on the discussion.

Captain Harry Gale FNI



Mike Vanstone



Hugo Cook



Ian Baylis



Mike Frampton