

SYNOPSIS

At 0035 on 10 December 2006 *Prospero* was approaching No. 2 Jetty, of the SemLogistics terminal, Milford Haven, when the master suddenly and without warning lost control of the vessel's podded propulsor system. This caused the vessel to make contact with the jetty's infrastructure, resulting in material damage to both the jetty and the vessel before control was regained.

At the time of the accident, *Prospero* was nearing the end of a passage from Dublin. The master and a pilot were on the bridge; no tugs were taken. As the vessel approached the jetty, the master transferred the conning position from the centre to the port control console in preparation for berthing the vessel port side alongside.

When *Prospero* was within 100 metres of the jetty, at a speed of 1.2 knots, the control lever then moved, with no manual input, to approximately 70% of full power. As the pod had been positioned to keep the vessel's stern clear of the jetty, *Prospero* very quickly increased speed and her bow swung to port. The master attempted to pull the control lever back to zero but the power remained at 70% and *Prospero*'s stern struck the concrete deck of the jetty, shortly after which the flare of the bow made contact with the steel gantry support of the jetty's oil loading arms.

While he was unable to control the pod's power, the master still had control of its direction, and he rotated the unit to move the vessel's head to starboard and operated the bow thrust to push the vessel's bow off the jetty. This brought the vessel parallel with the jetty, but with the power still at 70%. The master attempted to regain control by transferring control back to the central console and selecting the push button power control function, but this was not successful. The master then ordered the vessel's anchor to be let go and he turned the pod towards the stern to reduce the vessel's headway.

Shortly after this, and for no apparent reason, the power returned to zero. However, while the master was still evaluating the situation the power increased again to 70% and the vessel accelerated astern towards the jetty. The master was again unable to regain control. The pilot warned the personnel on the jetty to vacate the area, shortly after which the vessel's port quarter made heavy contact with the first of the mooring dolphins to the west of the jetty. She then continued astern to make contact with the second dolphin, resulting in material damage to both the vessel and the mooring dolphins.

By transferring pod control to the engine room and back to the wheelhouse, the master was able to regain control of the pod and stabilise his vessel until tug assistance arrived and *Prospero* was moved to a nearby jetty.

When *Prospero*'s primary propulsion control system failed, the master was not alerted to the failure and did not detect that the system had automatically switched into a reversionary mode of control. In his subsequent actions he was, to some extent, fighting the control system and was unable to prevent his vessel colliding twice with the jetty; once forward and once aft.

When built, *Prospero*'s propulsion system had been innovative, and the owners had benefited from an extended warranty. These two factors resulted in the owners depending heavily on the manufacturers for all aspects of product support. The lack of in-house maintenance procedures, inadequate system knowledge by ship's officers and shore staff, and weak SMS and onboard system documentation, overlaid on a propulsion system for which, when introduced, no dedicated technical standards existed, resulted in a vessel whose resilience to defects and emergencies was significantly weakened.

Although previous accidents and incidents to *Prospero* and her sister vessel, *Bro Sincero*, had presaged a control failure in some ways similar to that which occurred in this accident, these warnings had not been identified and no pre-emptive mitigating action was taken.

Prospero has suffered two further failures of pod control since this accident and the owners, manufacturers and classification society have individually and collectively commenced a series of actions to help prevent a recurrence; these are listed at Section 4.

Nonetheless, recommendations have been made to the vessel's owners, Donsötank:

- to provide training to their vessel's deck and engineering staff on the operation and maintenance of the SSP system;
- to put in place a service and maintenance regime for their SSP fitted vessels;
- to improve onboard documentation;
- and, to co-operate with the manufacturers and classification society to complete a Failure Modes Effect Analysis, and to retrospectively assess *Prospero's* SSP system against the current criteria for podded vessels.

While Siemens AG Marine Solutions, as senior partner of the Siemens-Schottel Consortium, has cooperated with the investigation, Schottel GmbH & Co. KG has declined to do so. The investigators, therefore, have been unable to fully resolve some of the engineering issues identified, and so cannot comment on the safety of the Schottel components of the SSP System.

On 26 October 2007, Siemens advised MAIB that the Siemens-Schottel Consortium (SSC) was no longer active, and that the two companies were investigating other means of mutual cooperation, with Siemens taking the role of sole responsible leader.