

Case Study - The Avonmouth Container Terminal



The Avonmouth Container Terminal was originally developed by Bell Lines and was constructed according to the concept typical of Bell Line's terminals. The Terminal was therefore based on one wide span container crane which not only served the ship loading and discharge functions but also stacking between the legs and serving lorry and rail traffic in the backreach. Since the demise of Bell Lines, the Terminal has been operated by the Bristol Port Company, who have added a second crane. The first crane, which was sized to serve typical feeder vessels, is relatively low. The second crane was sized to serve the largest ships capable of entering Avonmouth Docks and so has both a greater height and a greater outreach. Neither crane was originally fitted with a ship/crane anti-collision device.

Both cranes have experienced collisions with vessels. The newer crane was impacted by a ship-mounted jib crane which was moved without warning by the crew. The older crane was driven into a ship's radio antennae while the driver was plumbing a load in the back-reach. Considerable damage was done to this critical and vulnerable equipment and a substantial claim ensued. It is difficult to see how any anti-collision device could have prevented the first accident. However, The Bristol Port Company considered that an effective anti-collision system should be installed due to the nature of the typical duty cycle of these cranes and the probability of a repetition of the circumstances. Consequently, The Bristol Port Company commissioned Nav-Tech to develop a system capable of detecting objects as thin as 10mm and in all weather conditions at a sufficient distance to enable the crane to be brought to a halt without impact. This system is now in place on the older (lower) crane and is in daily operation.