



ROUNDING THE CAPE OF GOOD HOPE



In June 2008, the SVITZER Ocean Towing tug SINGAPORE was commissioned as the leading tug in the transport of a large FPSO from Ulsan, Korea, to offshore Nigeria. The 115-day voyage would involve passing the Cape of Good Hope in September, so weather conditions were expected to be harsh. Rounding the Cape of Good Hope always holds a certain degree of suspense, as the surrounding waters are known to be treacherous: strong currents, fast-changing weather and sea conditions as well as abnormal wave phenomena and ocean swells generated by storms to the south of the Cape make for a very unpredictable environment. For a tug and tow, there are also the shallows of the Agulhas bank to be considered. The catenary of the 1300 m paid out tow wire could exceed the water depths on the bank, so it is best to avoid them altogether.

PREPARING FOR PASSAGE

In preparing for the voyage, we wanted to plan a course of action enabling us to use the Agulhas current to our advantage, reducing actual passage time around the Cape and ensuring a safe distance from the coast – away from the break of the African continental shelf where abnormal waves are likely to form.

The complexity in planning a passage around the Cape relates mainly to the distance to be sailed, adding up to some 950 miles, which, given a towing speed of close to 6 knots, amounts to a 7-day passage, in favourable weather conditions, that is. In addition to prolonging the passage, bad weather has a direct effect on the speed of the transport as well as on the integrity of the wire connection and the tow itself.

TRYING TO PREDICT THE WEATHER

A week or two prior to the Cape passage, the SINGAPORE crew started to request weather forecasts from various sources, concentrating on the Cape waters and southern Atlantic regions. The forecasts indicated there was heavy weather underway – even compared to normal standards for that time of year. As you will never be able to predict a fair weather period for a full 7 days, we decided to meet and ride out the weather system affecting the sea area SE of East London, SA.

AVOIDING BAD WEATHER

In the early morning of 24 September, SE of East London, the weather conditions deteriorated very fast with wind speeds building up to 60 knots and gusts reaching 108 knots. Seas were also building fast, and once daylight broke, wave heights were logged as over 13 m. The bad weather had to be avoided at all costs to prevent the wind from gripping the broadside of the tow. Tugs therefore followed the changing wind direction, making sure to head straight into it at all times. Facing the wind straight on, the speed of the transport was practically reduced to zero – and it was even reversed when encountering strong gusts. This forced the tugs to reduce their engine output so as to be able to manage the high tensions in the tow wires.

The weather moderated by the afternoon of the 24th. However, the updated forecast informed us that the oncoming weather system was now intensifying instead of declining. There was no escape, because the seas behind and ahead would both become subject to the oncoming weather. And consequently, the tugs had to prepare for another bad spell.

AN OMINOUS FORECAST

On the 25th, we received the following forecast: “...conditions will ease a little today and tonight before increasing to severe weather conditions on Friday morning/early afternoon. The conditions expected to be experienced by the convoy on Friday and Saturday will be exceptionally severe and would advise the convoy to prepare for very heavy weather”. As the bad weather would be approaching from the west, we decided to try and make it as far and fast to the west as possible – to cut short the period in which we would have to cope with very severe conditions.

We decided to pass over the Agulhas Bank instead of going south of it as originally planned. Although the weather conditions moderated, the sea remained high on our west/south-westerly course, making the tugs roll heavily.

WORKING WITH THE SEA

On the 26th, the weather deteriorated again, and wind speeds built to over 70 knots. The transport now found itself just east of the Agulhas bank where waves were reaching heights of up to 20 m. Although the transport came to a stop in the water and was even forced back by severe gale force winds, our ground speed remained positive thanks to the strong Agulhas current setting west over the bank. As a result of our strategy to head west during the calmer periods, the severe weather conditions only lasted a day. So when the weather moderated on the 27th, we were able to continue our voyage over the Agulhas bank to reach Cape Town before the next spell of bad weather hit.

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