OCEAN WEATHER SHIPS

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I had just finished my engineering apprenticeship at the start of summer in 1969 and was looking for a change of job, having had a belly-full of long-haul ocean voyages to Australia and New Zealand.

One idea that came to mind was to work on cross-Channel ferries but then I heard about a small outfit on the Clyde that operated four Ocean Weather Ships for the Air Ministry – the pay was reasonable … one worked about a month, followed by two weeks off … and they were in need of an engineer.

Fig 1: Ocean Weather Ship Base, James Watt Dock

So rail voucher in hand I caught the overnight train up to Glasgow, took a bus to Greenock and found the OWS offices in the James Watt Dock. I was interviewed for about half an hour before being told that I would be joining the Weather Surveyor that afternoon and she would be sailing the next day! Sign this form and that and give us your bank details!

So what did the weather ships do?

Well in those days, apart from sending huge amounts of weather data back to Bracknell, the weather ships dotted about the North Atlantic provided an NDB beacon and radar service for airliners - in the event of one of these ditching, they could act as rescue vessels.

The Americans and Canadians looked after the stations on their side of the 'Pond', whilst Great Britain, France, Holland and Norway looked after the stations on this side. Now in true British tradition we were not going to spend any money on making life comfortable for the crews with fancy new ships (like those France had), nor were we going to convert decent sized ships such as Holland and Norway had done. Oh no! We had a load of corvettes the Navy did not want … patch them up here, add a bit there and they will do just fine!

Early on when the service was established in 1946 they used four Flower Class corvettes. Later on these were replaced by four of the larger Castle Class type but they were still survivors of the North Atlantic convoys and had very few modifications undertaken to equip them for their new peacetime role.

Outside my cramped cabin, almost in the forecastle, was a padlocked valve with a brass placard that read 'Magazine Flooding' and the chute through which the live rounds were hoisted to the gun turret above. All that had been done during the conversion was to remove the gun and weld a steel cover over the hole. Some of the other gun positions merely had the guns removed (in case the ships were ever requisitioned for some conflict or other). The most noticeable difference from the 'Grey Funnel Line' was the change from all over military grey to a scheme of orange from the main deck upwards and the addition of accommodation on the afterdeck to house the Met Office labs and balloon house.

Figs 2 & 3: Weather Surveyor in mid-Atlantic – photos taken from a high speed rescue rubber boat

The machinery spaces were unaltered from the day they were built in 1944. The main engine was an open crankcase four cylinder triple expansion steam reciprocating engine of 2750ihp and there was a reciprocating engine driving one of the dc generators, and a turbine the other one.

Separate from the machinery space were two pressurised boiler rooms each with a Yarrow water tube boiler. In the days of convoy duty they would be sailed with both boilers fired and could achieve 16.5 kts but for this peacetime role only one boiler would be used on each trip and we travelled at 10 kts or so to and from station.

To reach the stoke-hold you had to leave the engine room, go out on deck before entering through the correct set of air lock doors for the boiler in use. It was quite a rigmarole when you were in a hurry, particularly as you had to go through one door and close it, then open a vent and let the pressure stabilise, before the next door could be opened. Goodness knows how the stokers could have escaped if the ship had been torpedoed!

Communication with the bridge or stoke-hold was through brass ended voice pipes. You can guess the sort of tricks the bridge might get up to in order to relieve the boredom. The whistle would sound, you would then take the lid off at your end, only to hear someone say it was a bit wet up top. Best stand well back because the next thing to come down the pipe would be a bucket of seawater! Mind you, we were better off down below as the bridge was no more than a tin hut for the chartroom and for most of the time they had to stand outside, whatever the weather.

Leaving Greenock we sailed to a military oiling station at Loch Striven to bunker, and then, a few hours later, we set off to Juliet, our station for that trip which was some 200 nautical miles west of Shannon. Here we relieved the very posh, modern looking Dutch vessel, Cumulus, and settled down for our 28 day stint.

Fig 4: The Dutch Weather Ship Cumulus

The Met Office work had started as soon as we were clear of the Clyde – then, when we were on station, a balloon was released every four hours, sometimes with a mass of instruments slung below it, and at other times with just a radar reflector. Each time a balloon was released it meant some activity for us in the engine room, as the ship had to sail slowly into wind whilst the Met boys prepared and pumped helium into the balloon. This was done under a shelter but was a tricky task in any sort of a breeze. Once the balloon was released the ship could again be allowed to drift and as the balloon floated upwards the radar scanner tracked it. I don't know exactly how high or far they would go but on a windy day they would still be visible on screen some 200 nm away at the edge of the radar range. Launching a balloon required the co-operation of all but the catering department, but I bet even they got involved in some way!

I was never on board in a serious gale to know what happened with balloon releases then, but in the calmer summer weather we would steam just fast enough to make sure the balloon, when released, would not blow back onto the ships structure. Most of the time I was on these ships the sea was a flat calm and in between balloon launches the main engine would be stopped and the ship simply left to drift in the swell.

Some 30 minutes ahead of a launch we would start to get the engine ready by letting a little steam blow through to warm the cylinders and also to make sure no water that had condensed in the cylinders was trapped (which might cause a hydraulic lock and

damage the engine). Five minutes or so before time the bridge would whistle down and ask if we were ready then on time the telegraph would ring for dead slow ahead and a clicker device would ring up the number of revolutions that the watch-keeper thought was needed. The telegraph also rang in the stokehold so the firemen knew when to open up more burners.

Then we would have some half-an-hour of manoeuvring with the bridge calling for alterations in speed every few minutes, 50 revs, 55 revs, back to 50 revs and so on. The trouble was that we had no tachometer. There was a revolution counter but as that was showing some millions of revs it was far simpler to grab hold of part of the valve gear that was oscillating near the control station, watch the clock and count just like a nurse does when she checks your pulse. Making the fine adjustments the bridge expected was almost impossible and quite often we would just make a guess, open up or close down a touch but if it was for a stupidly small amount we would not even bother.

Figs 5 & 6: A helium filled balloon ready to launch with radar reflector – right, climbing skywards

I was just 21 when I joined OWS. I had been sailing on the refrigerated cargo ships of the New Zealand Shipping Company for four years, working in engine rooms that were packed with machinery and people. On each watch there would be at least three engineers and three greasers so it was a massive change to be the only engineer on watch accompanied by a greaser in the machinery space and two firemen in the stoke hold. Mind you there was very little in the way of machinery to look after compared to the big ships.

The main engine was slightly different from the text book triple expansion engine in that it was four legged with two low pressure cylinders, but it had all the standard Stephenson Link valve gear. All this linkage was controlled by the reversing lever which acted through a steam driven servo motor so one didn't have to be overly strong to shift the heavy gear from ahead to astern or to make the fine 'notching' adjustments for economical operation.

Speed control was achieved by opening or closing the main throttle valve by a large control wheel just near the telegraph quadrant at the control station. The other principle valve was located on the bulkhead between the machinery space and the aft boiler room. This stop valve was normally left wide open but in the event of an accident or burst steam pipe a cable could be pulled from an emergency stop position on deck.

I never saw the steam turbine running - I was told that as they were far too noisy and no-one liked them, so the Bellis and Morecambe reciprocating generator was always in use. With that running and the few pumps, some steam, some electric, that were needed to keep the ship going, these engine rooms were remarkably quiet. In summer with the skylight wide open we could hear everything that was happening on the afterdeck.

You soon got to know what was just mundane day-to-day activity and what was unusual. Hearing something strange, the trick then was to think up an excuse, such as a steering gear inspection, to escape and check out the excitement. One day a pod of Killer whales had surfaced a few yards from the stern and a few of these were 'treading water' and looking right over the low bulwarks at all of us gawping at them!

Figs 7 & 8: The only armament on board an OWS and, right, launching the lifeboat to pick up stores

Another unusual thing about working as an engineer on these ships was that we were not expected to do any maintenance tasks. Only essential repair work was allowed, and everything else had to be done in Greenock by the shore gang. On long ocean voyages one would normally expect to have a "to do list" as long as your arm and so would never find the time to be bored on watch. Here it was totally different - in between balloon launches the time could drag, and so most of the regulars had little hobbies to do on the lathe or they had brought bits and bobs from home that needed repairing.

Off watch, even though there were plenty of people on board there was not all that much to do. Most days the Captains would think up some activity or other to keep the boredom at bay. The favourite was the man overboard exercise as we could go off for an hour or so in a lifeboat or the high speed zodiac. As on all merchant ships, we endured the weekly Board of Trade 'sports day' with a fire and boat drill.

A large compartment built on the afterdeck was where the Met department would collate all the information sent back from the balloon, the radar tracking records and all sorts of additional data about the sea state, water temperatures at various depths, wind strength, visibility, cloud type and cover. These days our daily forecasts are, in the main, produced using information sent by automatic buoys and satellites. However it is the knowledge gained from ships such as these over a 25 year period that forms the database which now drives the computers.

In addition to all this met work, the staff also conducted various other surveys for universities across Britain. Most of this work came under the heading of 'fishing' whether it was taking deep samples for plankton or stringing out long lines with hooks at various depths to see what could be caught. Some species that are now caught commercially were first discovered by weather ships, sometimes tested for edibility and taste by the crew, but more often than not packed into special containers and sent to this or that professor of marine sciences. Most of these fish looked extremely ugly and unattractive especially those that were dragged up from the deep as these all ended up with their eyes popping out of their heads!

The radar room was never idle as their main function was to provide air traffic control for that sector of the Atlantic. By the time I was working on these ships most of the traffic was high-level jet stuff, but every so often there would be a much slower blip, and, if it was clear outside, you would see some antiquated piston job plodding slowly along. Introduced in 1946 for the burgeoning transatlantic services, the ships had to broadcast a continuous NDB signal with a coded stream of data that the airline navigators could translate as a position fix.

Fig 9: A Russian spy trawler

The accuracy of our location depended on the type of weather we were experiencing. If conditions were benign we had to be lying within a ten-mile box centred on the nominal position. During rough weather we could steam into the swell and try to hold

position but when it got too rough (gale force and above) we were allowed to go as far as 100 miles away before we would be classed as 'Off Station'. The codes were complex but I would love to know from those transatlantic pilots how easy the system was for them … up there.

One downside of being a floating NDB was that other ships also used the beacon as a navigation aid but if they just pointed their ship to follow the needle we could find ourselves being run down by some large vessel. We also would get the curious coming to spy on us, especially in the more northern locations when we could be shadowed by Russian spy trawlers for days on end. Other 'spies' were more fun as we also attracted pods of whales and at night-time shoals of fish and squid.

Fig 10: An RAF Shackleton dropping a spare parts canister

Periodically the RAF would send out a maritime patrol Shackleton to deliver spare parts for the antiquated radar, if one was lucky there might also be a letter or two from home in the consignment as well as some welcome fresh food!