13) Methane Princess (Shell Tankers) 21876 GRT. 12,500 SHP. R/E/O Tilbury 20/9/73 - 16/12/73 Canvey Island.

s.s. "METHANE PRINCESS" 21,876 GROSS REGISTERED TONS.

The ship was one of two experimental liquefied natural gas (Methane) tankers running between Arzew in Morocco and Canvey Island near Southend. The sister ship Methane Progress was almost identical. They carried their cargo at around minus 150 degrees Centigrade and at atmospheric pressure. The round trip took around 12 days, twice passing through two busy bottlenecks, the English Channel and the straights of Gibraltar. (These were the reasons why the ship was chosen as a test bed for the Marconi Predictor Radar).

The gas was piped from the gas field, then liquefied at Arzew in a huge refrigeration and storage plant. It was then pumped to the ship in heavily insulated pipes. At Canvey Island, we pumped the gas ashore with our own cryogenic pumps, into huge underground insulated tanks. Here it was stored prior to being distributed. This was a relatively high tech ship using the Methane boil-off as additional fuel for the main engine via a compressor. There was no refrigeration plant, the boil off took heat from the tanks and kept them cold. We lost around 10 percent of our cargo on the run, but this was planned for in the economics of the operation.

The ship was steam turbine powered instead of a diesel engine, as the easiest (and most economical) way to use the cargo boil off was by burning it in our boiler. This supplemented the normal heavy oil fuel and reduced the oil consumption very considerably. Ancillary equipment consisted of a Data logger (Ex Battersea power station), a comprehensive system of temperature monitors, a gas analyser and Coaxial pipelines with Nitrogen outside, Methane inside.

The Nitrogen was carried as liquid, in a huge tank like a vacuum flask carried in the bow. It was refilled once a trip by road tanker at Canvey. (One spill on the steel deck caused a hole through 3 decks! The steel shattering like thin glass due to the ultra cold temperatures). The gas analyser would check for any hydrocarbon impurities in the Nitrogen circulating in the outside jacket and thus check for leaks.

All those measurements, plus tank temperatures, pressures, flow rates etc were automatically recorded by the data logger. The tanks were stainless steel with thick Balsa wood insulation between the tank and the steel bulkhead of the tank space. The ballast space inspections (between the steel tank bulkhead and the outer hull) were made by the chief officer and a cadet looking for cold spots. If they saw a frost spot, the temperature of it was measured and a log kept. If the temperature dropped below about minus 10 degrees then the ballast space must be flooded to keep the steel "warm" and prevent any cracking or fracturing due to the normal stresses of the ship. Steel becomes brittle and loses its tensile strength when very cold.

This inspection work is not very nice, being inside the totally dark ballast spaces with ribs and stringers ready to knock heads and knees. It was however an important safety check, and was done without fail. There was generally a team of three people, the Chief officer and two others – frequently an AB and a cadet.

Once, during one of these inspections, a walkie-talkie was dropped, falling into a sea water filled section of tank. These radios were an essential communications medium on board, so after fishing it out, an apprentice was sent to bring it to me as fast as possible. It was of course a long way from the bowels of the ship up to the radio room, so it took him around ten minutes. The salt water had caused the battery to short circuit, and the thing was almost cooking by the time it reached me in the radio room.

I must admit I was very doubtful I could get it to work again, but it was worth a try. I removed and cleaned the battery as soon as it arrived, then obtained several buckets of distilled water from the engine room. The watch officer looked in amazement as I submerged the radio in the water, and let it soak until all traces of salt were gone. I cleaned up the corroded bits on the circuit board and power switch then carefully dried out the insides on deck in the hot sun. No one was more surprised than me, when after re-assembly, replacing the battery and switching on, it worked! It did my reputation good though. On a lot of ships the standard comment is often “give it to sparks, he can fix anything”!

The ship boasted some very comfortable accommodation. It was built as a floating test-bed by Shell and money had not been not skimped. Also, due to our regular return to Canvey Island, we even had draft English beer in our spacious and well used bar, a real luxury that not many ships could offer!

The Predictor radar however was very temperamental. At the time it was one of the first self plotting radars, and in its way quite advanced. Radar video data was stored on a sort of video tape, on an endless loop in a cassette. The scanner azimuth information was also carefully stored and synchronised with the radar echoes, so that a continuous picture could be built up of the last 6 minutes. The cassette contained just enough tape for 6 minutes of data to be stored before being overwritten. Due to its continual use, the tape had a limited life, and had to be replaced after a while. This was easily done by replacing the whole cassette.

After a change in tape manufacturer, static electricity build up caused the tape to jam and mangle up within the cassette. The old cassettes were fine, but the new ones never worked for long. The only cure I could find was to "steam" the radar transceiver with the bridge kettle to disperse the static! This caused no end of funny comments from the bridge watch officers. It was also of course not to be recommended as a permanent solution. The days of “steam radio” were long gone! I never did find out how they cured this problem, as I left Marconi shortly after, and never saw another Predictor radar again.