

How I Became a Marine Engineer (Part 4)

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“Cadetship” on Cardigan Bay (... continue from Part 3)

I remembered the fire fighting course I attended at PSA and immediately understood. I suspended my quest for automation knowledge and practised my escapes from several locations in the engine room using the nearest gangway and exit door. The next day, I thanked the Chief Engineer for thinking of my safety. After the tests, I probably knew the ship better than most (as they were mostly not in the ER, this was a UMS ship remember?)

I certainly did know the ship better than anybody else by the time I reached Singapore for I read all the manuals and traced all the control systems fitted. I filled a notebook with sketches and notes and they became my main source of reference for my instrumentation and control lectures. I also learned what happened during day work by tagging along with all the engineers. One of the tasks was to clear the boiler super-heater stacks of soot using soot blowers and to my surprise, operated manually. The 2nd Engineer explained that the automatic control failed. I studied the problem and discovered that the command signal was made to go through many loops and interlocks. I could see no rationale for this other than the supplier wanting to sell more pneumatic sequential control valves and after sales services by making the system so complicated that the customer would not dare to tinkle with the maze of copper tubing!

I suggested re-routing the signal to make the system work as intended i.e. to make the 12 soot blower lances pierce into the pipe stacks one at a time while releasing steam to knock out the soot that had accumulated on the pipe surfaces. The 2nd Engineer agreed to my suggestion saying, “why not? I got nothing to lose”. He took some lengths of copper tubes, fabricated a couple of joints, removed the unnecessary joints and hooked up the new joints in accordance with my instructions. He then turned on the air supply to the “re-wired” control system and the steam, hit “Start” and it did. The 2nd Engineer thereafter told me, “Whatever you need to know about my engine room, just ask”.

Attachment to Keppel Shipyard

During April 1974, I was attached to the Automation Department of Keppel Shipyard through the good office of the late Mr. Chua Chor Teck. He was MD of Keppel Shipyard as well as Chairman of the Singapore Polytechnic Board of Governors. He wanted me to share what I knew about marine automation with his technicians while I gain the practical experience I needed. I conducted classes on the shop floor during lull times. At other times, I watched how instruments and control devices were repaired and coached by Mr. Edward Lee, the engineer in charge of the section and his “boys” like Seng, Tham and “Fei Chee Yoke”.

A common difficulty encountered in the repair of automation equipment was the absence of equipment manuals or when available were in a language that we could not understand e.g. Russian. The labels on the equipment were typically missing or defaced. Thus most of the time, the only information we got from the Superintendent was just a lead like “the boiler control system was not working, please repair”.

With that, Edward and I often had to figure out the function of each of the devices removed from the ship to the workshop. Here I was able to add value by shortening the time taken to establish their identities for I had by this time seen a large and wide variety of instrumentation and control devices. The “boys” also found it useful when I shared with them the operating principles of the devices.

At the end of the attachment, it was decided that my “lectures” and guidance were useful and I was given a retainer to continue my relationship with Keppel Shipyard.

..... To be Continued in Part 5.....