



**Oral History Interview Transcript**

**Interview Control Number: 9-C24**

**Interviewee: Cdr. (ret'd) R.W.A. Roberts**

**Interviewer: Sid Jorna**

**Date of Interview: 11 November 2009**

**Location of Interview: Victoria, B.C.**

**Transcribed by: Joy Thatcher**

**INTERVIEWER:** This is a CANDIB Oral History Project interview with Cdr (ret'd) Richard Roberts recorded on 11 November 2009 at his home in Victoria, BC. The interview was conducted by Sid Jorna.

**Tape 1, Side 1**

**ROBERTS:** I am Dick Roberts [and] as Sid has just explained I have considerable naval experience culminating in the rank of Commander. My experience in [my] highest rank was in shore establishments, but I also had a lot of sea appointments.

**INTERVIEWER:** Thank you. We have both signed a legal release, is that correct Dick?

**ROBERTS:** Yes it is Sid.

**INTERVIEWER:** Dick, the CANDIB interviews are primarily interested in the industrial base [experience] you might have had in the Navy. Can you just relate very quickly where your significant interface with the industrial base in Canada would have come from [so] that we can gauge the questions to ask.

**ROBERTS:** Well Sid, my experience was at Dominion Engineering Works Limited in Lachine, Quebec, a suburb of Montreal. Dominion Engineering had the contract to produce various items of propulsion machinery for the Navy, but the most unique one was a plant that was built especially to produce hardened and ground gearing; main propulsion reduction gearing. This was as a result of the Marine Engineering design for the Navy of the times which was attempting to make marine propulsion machinery as light as possible and hardened and ground gearing can carry a higher load than ordinary "hobbed" or "hobbed and shaved" gearing and therefore the gearing part of the power train is smaller and lighter.

**INTERVIEWER:** Was this technology developed for any particular shipbuilding program or class of ships at the time?

**ROBERTS:** Well the..., yes it was in a way. The inventors of and producers of the machine tools to do this were a Swiss firm. (You'll have to bear with me, I can't remember their name at the moment but it'll come along.) They designed and produced the machine tools and they produced a pilot set, you might say, of reduction gears for the first destroyer of the class and they also produced a set of machine tools which was set up in a very fancy little plant on the ground of Dominion Engineering in Montreal complete with air conditioning and all the rest of it to avoid temperature variations in manufacturing.

**INTERVIEWER:** Yes those were the days when they had engineering, sorry, air conditioning for machines not for people.

**ROBERTS:** That's exactly right, Sid yeah.

**INTERVIEWER:** What was the time frame that this would have [occurred]?

**ROBERTS:** This would have been..., this plant would have been started in the..., in the early fifties and my experience there was in the late fifties and early sixties.

**INTERVIEWER:** Early sixties. So would this have been for the Saint Laurent Class of destroyers? [Note: The St Laurent Class were all commissioned in the 1950s, followed by the Restigouche Class and then Mackenzie Class]

**ROBERTS:** It was for the Saint Laurent Class, Saint Laurent's and Restigouche's were equipped with these gears.

**INTERVIEWER:** Was there, you mentioned this Swiss firm making machine tools, do you remember [if there was] a formal transfer of technology, a transfer of intellectual rights associated with this?

**ROBERTS:** I'm not aware of that. (I'm still trying to remember the name of the firm.)

**INTERVIEWER:** Right.

**ROBERTS:** But they pioneered the use of hardened and ground gearing in order [for the] gears to carry heavier loads and therefore be smaller and lighter for a given horsepower rating and they also designed the gearing for the Saint Laurent Class.

**INTERVIEWER:** How did Dominion Engineering get involved? Do you know any of that history?

**ROBERTS:** I wasn't in that part of the time frame; it had been done before I arrived there. There were two Overseers, Naval Overseers before me there. I was the third.

**INTERVIEWER:** Do you remember who they were, do you remember their names?

**ROBERTS:** No, I will remember I think but I can't at the moment. Oh yes, the one that I, that I relieved was Bill Attwell. I think he spelled his name with two T's. And the one before him was, he's also a well known Naval Engineer too. I can't remember.

**INTERVIEWER:** Well if it pops up in your mind as we go along let me know. Do you remember were there any particular problems with these gears that were being manufactured?

**ROBERTS:** Problems in the manufacturing?

**INTERVIEWER:** In the manufacturing; like you would have been overseeing the manufacturing part.

**ROBERTS:** Yes. Well the loads that were being carried were considerably higher than the tooth loading for ordinary gears so they had to be not only a hard surface to carry the load but also the accuracy had to be very good in the tooth profile throughout and it seems to me that it was two tenths, that's two tenths of a millimetre.

**INTERVIEWER:** Of a millimetre?

**ROBERTS:** Yeah.

**INTERVIEWER:** Wasn't that two tenths of an inch?

**ROBERTS:** No, no it [was] two tenths of a millimetre; I've never actually seen them. But put that down for now, but put a question mark beside it.

**INTERVIEWER:** What happens with a lot of these interviews is that we also talk to other people who somehow have a tangential experience and then you know sometimes we get to verify facts and cross reference. So, when you were overseeing them did you encounter any issues or they were having difficulties that they had to overcome. Was there anything like that, or did it all run smoothly?

**ROBERTS:** Well in general it ran smoothly, but there certainly were difficulties. Dominion Engineering would produce the gears by the ordinary hobbing process in the special steel that was used, which could be case hardened. So the gears were first hobbled by a traditional process and then they were heat treated to be surface hardened and then they were put on the grinding machine and the final, the final tooth profile was ground to I think I already said it was two tenths of a millimetre.

**INTERVIEWER:** Two tenths of a millimetre.

**ROBERTS:** ...of a millimetre.

**INTERVIEWER:** For those of us who don't know much about these things what does hobbled refer to?

**ROBERTS:** Oh that's a process of producing involute teeth on gearing.

**INTERVIEWER:** Involute teeth being sort of...?

[Note: An involute curve can be produced by wrapping a string around a cylinder. A pencil attached to the loose end of the string will trace an involute curve as the string is unwound from the cylinder]

**ROBERTS:** Well involute is if you..., that's the standard form for the curve in a gear tooth. The only teeth that have straight sides are racked. Do you know what a rack is? It's gear teeth in a straight line which a gear might run on. Some automobiles have a rack in them for the steering wheel.

**INTERVIEWER:** Right, if you have to merge...

**ROBERTS:** If you have to [merge gears]; they have to have an involute profile, because there is no sliding action between the teeth, they roll.

**INTERVIEWER:** Okay, and this was, was this a new process?

**ROBERTS:** No, that was traditional for gearing.

**INTERVIEWER:** That was traditional for gearing.

**ROBERTS:** Involute tooth gearing had been around for probably 50 years before these gears were.

**INTERVIEWER:** So what was the new machinery stuff coming from Switzerland?

**ROBERTS:** Well the MAAG company in Switzerland, M-A-A-G, pioneered the production of hardened and ground gearing. They used the ordinary process which was used for all hobbled gearing first on the gear blanks and then they heat treated them [for hardening] to make them, with a hardening process. Of course that produced a little bit of a distortion in them and so they were, the profiles were re-established by a grinding process which was a MAAG company, M-A-A-G incidentally.

**INTERVIEWER:** Yes, I've heard of the company before.

**ROBERTS:** It was a patented process. It was a Swiss engineering firm. They produced the machinery specifically for the main reduction gearing for the Canadian Navy's class of however many ships... There were 12 or 14 ships in that class, wasn't there?

**INTERVIEWER:** Yeah

**ROBERTS:** Maybe eventually 20.

**INTERVIEWER:** Yeah eventually they went to about 20; 21 also comes to mind, I can't really recall. There were really two classes of ships I think.

**ROBERTS:** Yeah, well they all had basically the same power plants, but I think the later ships had the addition of a cruising turbine, which meant the gears that were being made when I was the Overseer, had an auxiliary train for the cruising operation part.

**INTERVIEWER:** Now it seems to me that the Restigouche Class might have had a small ? on the gearing?

**ROBERTS:** That's what was being produced when, no as a matter of fact the Restigouche Class was just being finished up when I was there and they were producing the gears for the last six ships, which I don't know what that class was called. Same basic design...

**INTERVIEWER:** Same basic design as the Restigouche Class.

**ROBERTS:** ...in both hull and machinery... Restigouche and then what was the...?

**INTERVIEWER:** Annapolis Class

[Note: There is some confusion here. The follow-on class to the Restigouche was the Mackenzie Class of which there were 4 ships built. The Annapolis class came later in the early 1960s]

**ROBERTS:** Annapolis Class, you're right.

**INTERVIEWER:** The Annapolis Class. But the Restigouche Class they had, well the KOOTENAY of course had a problem with its gearbox...

**ROBERTS:** Yes.

**INTERVIEWER:** ...which was not the fault of the gears per se but they had somewhere in refit somebody had put something in backwards which is what I had come to understand. But they must have been a little bit different from the other Saint Laurent's because when they did the gearing inspection to find out what went wrong they only inspected the Restigouche Class not the other ones.

**ROBERTS:** Well there was a class before Restigouche too what was that, the Annapolis?

**INTERVIEWER:** No, the Annapolis Class came after Restigouche, the Saint Laurent Class.

**ROBERTS:** Oh it did? ... Saint Laurent Class.

**INTERVIEWER:** There were lots of those.

**ROBERTS:** There were seven ships in that class and seven in the Restigouche, and then there were six in the final class which was in the production that I was associated with.

**INTERVIEWER:** Okay, so you were really associated with the [MacKenzie and the Annapolis Class] and that was ANNAPOLIS, NIPIGON. I can't remember names - Mackenzie?

**ROBERTS:** I can't remember their names now.

**INTERVIEWER:** Anyway this gearing that was produced by Dominion Engineering in Montreal on license from MAAG...

**ROBERTS:** MAAG? Yes.

**INTERVIEWER:** ...on license from MAAG, right, I was just wondering if you know if Dominion Engineering ever purchased the ongoing rights for that process? Do you know, did that become a Canadian capability or did they have to stop using it as soon as the contract was finished?

**ROBERTS:** I have to admit my ignorance in that respect. I don't know what happened to the plant after I left. I think I asked people and nobody could tell me, so it probably lay idle for some time but I'm sure Dominion Engineering would find other uses for those gears.

**INTERVIEWER:** If they were allowed to.

**ROBERTS:** If they were allowed to, yes.

**INTERVIEWER:** Do you know if the work that Dominion Engineering did for the Navy on these ships, and perhaps other contracts, did that help them at all in their evolution as a business that you know of? Do you have any personal knowledge of that?

**ROBERTS:** Well, I don't know really, but the higher management in Dominion Engineering had communicated with the MAAG people in Switzerland during the initial stages of this project while

the plant was being built and it seems to me that some of the machine tools I think, such as the cutters that were used, were probably produced, probably purchased from MAAG. Do you want to know a little bit about how the gears were made?

**INTERVIEWER:** Yes please.

**ROBERTS:** They were hobbled as ordinary soft gears were, which is using a rack cutter with a moving blank to get the involute profile. After that process they were case hardened, which produced some distortion. So in order to get them back to the best involute profiles that they could they were ground; too hard to machine.

**INTERVIEWER:** Too hard to machine?

**ROBERTS:** So they had to be ground.

**INTERVIEWER:** That's interesting. And these grinding machines were MAAG machines?

**ROBERTS:** They were, yes, the grinding machines were produced by MAAG in Switzerland. MAAG made the initial sets of gears in Switzerland, but I don't know how many they turned out.

**INTERVIEWER:** It was probably a condition of contract to bring some of this work back to Canada?

**ROBERTS:** I don't know about that, but I think you are probably right.

**INTERVIEWER:** I know in later contracts that was always a requirement.

**ROBERTS:** I don't know how many ship sets were done [by] MAAG in Switzerland. There were, I suppose it's 20 ships altogether that had those gears in them. [Later: It is understood there were two sets of gearing supplied by MAAG for St. Laurent and one set for Saguenay – DDE 206].

**INTERVIEWER:** Yes. It was an important technology with pretty large effects. You mentioned that the Dominion Engineering built the building, was that specifically for this project?

**ROBERTS:** Oh yes it was because their main plant buildings were not substantial enough or airtight enough to have air conditioning in them, which was required not just for creature comfort, but for the accuracy of the gears; the plant had to be air conditioned.

**INTERVIEWER:** I imagine the management of dust was important?

**ROBERTS:** Yes, it was. Yes, it was a pretty clean place. You could be served dinner off the deck.

**INTERVIEWER:** Off the deck. I suppose that that would be quite a focus actually. Is there anything else in this part of the experience, Canadian industrial experience?

**ROBERTS:** Well unfortunately I haven't followed up on that, I don't even know what the final fate was for that expensive little factory that was set up there.

**INTERVIEWER:** Right, presumably they'd gone on to manufacture gearing for other applications.

**ROBERTS:** There would be other applications I'm sure.

**INTERVIEWER:** Okay, I'm going to pause now for a second and collect my thoughts.

I'm interested also in your time as a Naval Overseer in Peacock's. Now I understand that was roughly the same period of time, you were splitting your time between.....

**ROBERTS:** Yes it was Sid.

**INTERVIEWER:** Okay.

**ROBERTS:** Somewhere along the line after I had been at Dominion Engineering for a while and during which time there was a separate Overseer at Peacock Brothers. That Overseer moved on and wasn't replaced immediately and I filled in as the Overseer at Peacock Brothers.

**INTERVIEWER:** What sort of things were they involved with at the time?

**ROBERTS:** Oh, Peacock's probably built almost all the bits and pieces of auxiliary machinery that are required to run the machinery system and the domestic systems in a ship, pumps particularly.

**INTERVIEWER:** So they had the contract for Saint Laurent and Restigouche Class.

**ROBERTS:** Yes they did.

**INTERVIEWER:** So that would be quite a large involvement?

**ROBERTS:** I don't know whether they had all of it, but they certainly had the bulk of it.

**INTERVIEWER:** The bulk of it. Do you remember their relationship; were they acting as a subcontractor to the shipyard or were they providing it as GFE? [Government Furnished Equipment]

**ROBERTS:** They were providing it to the shipbuilders and also directly to the Navy because a lot of these items were kept in stores.

**INTERVIEWER:** In the store supply?

**ROBERTS:** For direct replacement as required and they would range all the way from main feed pumps in the main propulsion system down to firemain pumps and domestic system pumps.

**INTERVIEWER:** That's quite an involvement. I know Peacock's is still involved.

**ROBERTS:** I imagine they're still going.

**INTERVIEWER:** Were there any particular engineering issues that you were concerned with at the time at Peacock's that you overcame with them?

**ROBERTS:** I can't recall any at the moment.

**INTERVIEWER:** Okay. Any particular highlights that you achieved together?

**ROBERTS:** Here again I'm afraid my memory doesn't call up anything right at the moment.

**INTERVIEWER:** Okay. It was mostly, you would characterize this as, routine inspections and things are moving along smoothly.

**ROBERTS:** I think this went on for maybe a year or so and when I really was filling in between two permanent, two appointments of permanent Overseers.

**INTERVIEWER:** Was there a staff that was present at Peacock's while you were the Overseer?

**ROBERTS:** Yes there was I think there was a Chief Petty Officer who assisted the Overseer at Peacock's.

**INTERVIEWER:** Was it the same at Dominion Engineering? Did you have a staff there?

**ROBERTS:** Part of the time I had a staff. I had a clerical staff, a stenographer and I had an assistant Overseer, a senior NCO.

**INTERVIEWER:** So this period of time when you were the Overseer for those places was that before you became Chief Engineer in BONAVENTURE?

**ROBERTS:** Yes it was.

**INTERVIEWER:** Okay so you would have been a Lieutenant Commander?

**ROBERTS:** Yes I was. I think I was Lieutenant when I went there. I was there for almost five years.

**INTERVIEWER:** Five years! So you were promoted whilst there to Lieutenant Commander?

**ROBERTS:** Yes.

**INTERVIEWER:** Okay, maybe we can turn now to a little bit about your time in BONAVENTURE and in particular I want to get fairly quickly into the period of the refit.

**ROBERTS:** Oh yes, okay.

**INTERVIEWER:** When did you first join BONAVENTURE? Did you join in the appointment of Chief Engineer?

**ROBERTS:** No, I was Senior Engineer.

**INTERVIEWER:** Senior Engineer?

**ROBERTS:** That was the Lieutenant Commander rank.

**INTERVIEWER:** Okay. That would have been 1966-67?

**ROBERTS:** Probably it would have been, yes.

**INTERVIEWER:** And they were still in full flying mode at the time?

**ROBERTS:** Yes they were.

**INTERVIEWER:** Was it the Banshees at that time too?

**ROBERTS:** No I don't think there were any Banshees there.

**INTERVIEWER:** Trackers?

**ROBERTS:** Trackers and what else?

**INTERVIEWER:** Sikorsky helicopters.

**ROBERTS:** Sikorsky helicopters, yes.

**INTERVIEWER:** I was actually on the antepenultimate cruise on BONAVENTURE, I was doing my Sea Reqs and BONAVENTURE had already stopped flying operations and was transporting troops to Kingston Jamaica just before being taken off.

**ROBERTS:** With their motor vehicles too?

**INTERVIEWER:** Yes. So that was really interesting, I can relate to some of the experiences you might have had on BONAVENTURE.

**ROBERTS:** Well there's one that I'd like you to record I think. We did a trip to Stockholm and the momentous thing about that trip that I remember it was we got around the north end of Denmark and were going to head south a bit, then north.

**INTERVIEWER:** Through the Kattegat

**ROBERTS:** Yes, so we weren't far into the Kattegat when a Russian destroyer shows up and he fell in astern and he stayed outside when we were in Stockholm and then when we came out, there he was waiting for us. So he fell in astern and we got somewhere near the northern tip of the Kattegat, I guess it is and all of a sudden there were puffs of smoke out of his funnels and a great big bow wave and he came roaring up the side of BONAVENTURE with his crew lining the decks and he turned around in a great big swooping circle and off in to the horizon.

**INTERVIEWER:** So they were just saying good bye. That was interesting.

**ROBERTS:** Yes that's right, it was quite picturesque.

**INTERVIEWER:** Were there any interesting or noteworthy engineering occurrences while you were Senior E?

**ROBERTS:** Oh yes I'm sure every day there was.

**INTERVIEWER:** Every day!

**ROBERTS:** Yes, it was quite a .... There was nothing remarkable about the machinery in that ship and it wasn't all that large for an aircraft carrier, but there was always something requiring your attention.

**INTERVIEWER:** I remember doing shaft [passage] rounds on Bonaventure, which was quite an experience. She had four main boilers didn't she, triple drum boilers?

**ROBERTS:** Yes there were... Oh, and she was unique in having the boilers and machinery in the same compartment. I can't remember which shaft was powered by machinery in the forward Engine. I think it was the port side had a long shaft and the starboard side had a short shaft.

**INTERVIEWER:** They were staggered.

**ROBERTS:** The two machinery compartments were "Forward " and "After" and the forward one had the [two] boilers and the engines for the port shaft and the after one had the boilers and engines for the starboard shaft. [There were] two boilers and a set of engines in each compartment. The port shaft was twice as long as the starboard shaft. [Note: some editing and deletion of redundant words was needed to correct this paragraph.]

**INTERVIEWER:** Being an expert by this time on gear boxes was there anything special about the Bonaventure gear boxes?

**ROBERTS:** No they were quite primitive.

**INTERVIEWER:** Quite primitive. So she went in to refit in, it must be about 67 – 68?

**ROBERTS:** That's probably right yeah, at Davie Shipyard.

**INTERVIEWER:** At Davie Shipyard. Were there any particular issues that were uppermost in a list of things that had to be [torn] down?

**ROBERTS:** I think there were things that had to be..., there were a lot of A and A's and so on that had to be brought up to date there was.....

**INTERVIEWER:** A and A's being...

**ROBERTS:** You know...

**INTERVIEWER:** Alterations?

**ROBERTS:** Alterations and Additions.

**INTERVIEWER:** And additions, but they were routine things?

**ROBERTS:** They were routine things, yeah.

**INTERVIEWER:** Was there anything in the way of... I know there were a number of modernizations some of it in the accommodations, but was there any technology change at all?

**ROBERTS:** I think there may have been things but I can't recall them now.

**INTERVIEWER:** Nothing that sticks out in your mind. What were the.... did you have any real challenges to overcome? Did you run into any problems with the contract with Davie - the way things went together?

**ROBERTS:** I don't think so. Davie was quite a nice yard to be in and they had previous Naval experience; they had built ships.

**INTERVIEWER:** So there was nothing particularly of note other than a routine and competent refit.

**ROBERTS:** Yeah, yeah. I left the ship at the end of the refit, but as far as I know there were no subsequent problems.

**INTERVIEWER:** I guess no one knew that they were going to pay her off during the next two years did they? I remember that came as a shock to the taxpaying public.

**ROBERTS:** Yes it did. The newspaper reporters made a big thing out of it too.

**INTERVIEWER:** That was an interesting.....

**ROBERTS:** I suppose they were interesting ships, those two carriers we had, the Magnificent and Bonaventure, different from a navy marine engineer's point of view, by having the boilers and engines in the same compartment and a long shaft and a short shaft, but of course the power wasn't all that much. They didn't have any more..., actually I don't think they had as much power in them as a Tribal destroyer.

**INTERVIEWER:** Which is probably why they called it HMS Powerful before it became HMCS Bonaventure?

**ROBERTS:** Yea, with tongue in cheek.

**INTERVIEWER:** Was there any reason, I know the Bonaventure had engines and boilers in one compartment but was there any reason that that was not standard practice. Was there a particular safety reason for this?

**ROBERTS:** It was just a way of compartmentalizing things I suppose.

**INTERVIEWER:** Keeping the compartments small enough for damage control.

**ROBERTS:** Yea, damage control.

**INTERVIEWER:** How did you feel about that, did the Bonaventure shape up enough, as a damage control worthy ship, a robust ship, what was your feeling about that? Do you have any feeling about that?

**ROBERTS:** Well I guess I appreciated why they had been designed that way, they were trying to get a ship that would survive with at least one half of its power remaining if it was damaged, but I don't know whether anybody else did the same thing again.

**INTERVIEWER:** Well they probably wouldn't because the ship the size of BONAVENTURE would be kind of unique wouldn't it?

**ROBERTS:** Yes it was really a small carrier because they had converted merchant ships and so on, didn't they ? but it was a small aircraft carrier.

**INTERVIEWER:** There were some nice innovations with the naval gear. The arrester gear was special.

**ROBERTS:** Yes, that's right so it made a smaller carrier viable/possible.

**INTERVIEWER:** Didn't it have special arrangements for landing barriers that was an aid to the pilot so he was able to come in on a small carrier?

**ROBERTS:** Yes I believe so that's right, technically advanced.

**INTERVIEWER:** I remember reading about various aspects of Bonaventure. Of course, when I sailed on her only for a short time for a few months, while our gear box was being inspected, as a matter of fact. I was actually in Terra Nova and we had to go and get our gearbox inspected after the Kootenay had her problems. I couldn't afford the time out from my Sea Reqs so they sent me to Bonaventure to finish my engineering Sea Reqs.

**ROBERTS:** Well, yeah.

**INTERVIEWER:** Which I thoroughly enjoyed.

**ROBERTS:** What happened to Terra Nova's gears?

**INTERVIEWER:** Nothing to Terra Nova. The Kootenay blew up, they had casualties, I'm not sure, I don't know exactly what happened but what I understand is that somewhere along the line in a refit being managed, something went completely wrong and it was okay until it came under load - full power.

**ROBERTS:** The loading was extremely high on those [gears]. That was another part of my Naval career - I was the Naval Overseer of Dominion Engineering works for four years making those, overseeing the manufacture of those hardened and ground gears. Those carried a very high load compared to conventional gears.

**INTERVIEWER:** So when something went wrong it [went] wrong spectacularly.

**ROBERTS:** That's right.

**INTERVIEWER:** So they took all of the IRE'S, the Terra Nova, Gatineau...

**ROBERTS:** Both classes, the early ones and second class, they all had similar hardened and ground gearing. The layout of the gear train was slightly different in [the] second class [of ships].

**INTERVIEWER:** So what did you do after you left Bonaventure?

**ROBERTS:** I was on the overseeing staff in Quebec City for the Bonaventure refit.

**INTERVIEWER:** You were there until you left the Navy?

**ROBERTS:** No, I wasn't.

**INTERVIEWER:** Dick, just after the Bonaventure refit I understand you left Davie Shipyard shortly after. Where did you go after that?

**ROBERTS:** I came out to the West Coast, Sid.

**INTERVIEWER:** You were promoted to Commander at that point?

**ROBERTS:** Yes [sometime soon after that], I think I had a..., no that's good enough, that's good, it wasn't long anyway but I....

**INTERVIEWER:** Somewhere in there you were promoted to Commander and came out and you took up a new position on the West Coast. What did you start off doing?

**ROBERTS:** I think that I started off at the Fleet School and then I was promoted and I got a job on the Admiral's staff and then I went to the Fleet School as the OIC.

**INTERVIEWER:** Was that after the Admiral's staff or before?

**ROBERTS:** I can't remember right now, I can't remember it yeah. I can't... yeah.

**INTERVIEWER:** OIC Fleet School in Engineering Division.

**ROBERTS:** Yes, yeah.

**INTERVIEWER:** You mentioned off tape that you actually as the OIC you actually taught a class of CPO's as well?

**ROBERTS:** Yes I did yeah.

**INTERVIEWER:** Do you remember what you taught them?

**ROBERTS:** [phrase deleted]. Well I've forgotten what the theme was or even if there was a formal theme to it, but I think I invited them to produce a problem that they had experienced in their careers for discussion and so we would all have an hour or so helping him solve it all over again. I don't remember too much more than that.

**INTERVIEWER:** I remember in a similar situation myself ten years later, this was actually a fun time in a naval career.

**ROBERTS:** Oh yes it was, it was great.

**INTERVIEWER:** You had to get [involved] with all the young people.

**ROBERTS:** You knew some of these people before anyway so it was nice to see them again and talk about old times.

**INTERVIEWER:** Old times and you knew that you were actually affecting the young Engineers of the future when you do it. You actually help them... throwing the ball forward. Can you tell me a little bit about the Admiral's staff? You were the Command Technical Officer?

**ROBERTS:** Yes I was. I think there were two of them there during my time there. I can't remember who the second one was, but the first one was Dickie Leir.

**INTERVIEWER:** And Admiral Charles doesn't ring a bell?

**ROBERTS:** Yes I think it was.

**INTERVIEWER:** As it turns out he's my new neighbour.

**ROBERTS:** Is that right? What's he do these days?

**INTERVIEWER:** Well, he's squiring over a huge property. He's still operating his own little forestry. I hesitate to call it a business but he saws lumber. He's 92 and he's still doing work!

Anyway just back to Command Technical Officer do you remember any significant occurrences out here while you were in that position? You may not remember the details but....

**ROBERTS:** Yeah, I should but I don't at the moment.

**INTERVIEWER:** Okay, so you would have been the Technical Officer until about --- when did you retire?

**ROBERTS:** I think it was 1972.

**INTERVIEWER:** 1972, so you probably would have been here from '69 till '72 about a three year stint on this coast.

**ROBERTS:** I think it was more, I think it was probably four anyway.

**INTERVIEWER:** Four right, '68 to '72. Well you would have been right in the middle of integration and unification.

**ROBERTS:** Yes indeed, that's right.

**INTERVIEWER:** As well. Do you have any stories to tell about that?

**ROBERTS:** I don't know, I can't think of any.

**INTERVIEWER:** You can't think of any. I have lots of stories to tell.

**ROBERTS:** Yeah.

**INTERVIEWER:** In fact I joined the Fleet as an officer in '68

**ROBERTS:** Uh huh. Well, yeah. What was your background before that?

**INTERVIEWER:** Well I joined as an ordinary seaman, as a Radioman, Special.

**ROBERTS:** Uh huh, special? Yeah, I was a Sonar....

**INTERVIEWER:** Sonar?

**ROBERTS:** ...when I joined the Navy.

**INTERVIEWER:** I ended up in Sonar.

**ROBERTS:** You did eh?

**INTERVIEWER:** Commander in charge of the Sonar Directorate. Director of Maritime Combat Systems in Sonar.

**ROBERTS:** Well

**INTERVIEWER:** Yeah, okay so, well I've run out of questions. Do you have any particular anecdotes in this vein that you might like to relate?

**ROBERTS:** Well I, I don't know I thought of that one of the..., I already told you about the Russian ship in Stockholm.

**INTERVIEWER:** Well Dick, I think that takes us to the end of this particular interview and I would like to thank you for the stories that you shared with us.

**ROBERTS:** Glad to contribute Sid.

**INTERVIEWER:** Thank you very much.

**ROBERTS:** And I apologize for my lack of response in some cases, but that's the way it goes.

**Interview ends**

## **ABBREVIATIONS**

A and A's	Alterations and Additions.
CPO	Chief Petty Officer
GFE	Government Furnished Equipment
IRE	Improved Restigouche Class
NCO	Non Commissioned Officer
OIC	Officer-in-Charge