



ORAL HISTORY INTERVIEW TRANSCRIPT

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INTERVIEWEE: Rear Admiral John Charles

INTERVIEWER: Sid J. Jorna

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TRANSCRIBED BY: Sue Easterman and Joy Thatcher

**Transcription of Interview Number: 9-C29**  
**RAdm John Charles**  
**Interviewed 29 July 2009**  
**By Sid Jorna**

**NOTE:** Duplicate words and extraneous dialogue have been removed. Un-interpretable dialogue has been noted as [missing dialogue] or ???.

**Tape 1, Side A**

My name is Sid Jorna and this is a CANDIB oral history project interview with Admiral John Charles. The interview was taped on Wednesday, July 29<sup>th</sup>, 2009 at his home in Otter Point, British Columbia. This is **Tape 1, Side A**.

INTERVIEWER: We are fortunate today to be able to conduct an interview with Rear Admiral John Charles. It is also of interest to note that Admiral Charles had comprehensive interviews with Dr. Wilf Lund in 1995 and 2001. These interviews [missing dialogue] provide a really good insight in a most dynamic period in the Navy.

Admiral, you have certainly contributed and presided over many of the key events that continue to shape our experience today. My interview with you will of necessity cover some of the same ground as those of the Lund interviews, but they have a slightly different focus. The CANDIB, Canadian Defence Industrial Base Oral History Project is primarily concerned with documentation of stories of naval technology industrial based development. I realize that your involvement would have been operational and not necessarily technical/industrial but in steadily increased ranks you are involved with the key decisions.

Your time from the end of the Second World War until your retirement saw a complete reorganization of the Navy, its equipment and personnel structures; therefore, also the complete reorganization of the intended industrial base. There is a period of demobilization after the war of reducing the size of the wartime Navy tempered by the lead up and the Korean conflict. The period after the Korean conflict must have been a challenge as a huge wartime effort would be winding down. Fortunately the record indicates that there was plenty of money in these times allowing the design and building projects of the SAINT LAURENT, Cadillac, destroyers and to accommodate a shift in technology orientation from British to American systems. These programs would have saved or sustained the major yards like Vickers in Montreal and Victoria Machinery Depot.

On your watch there were follow-on MACKENZIE, RESTIGOUCHE, NIPIGON and ANNAPOLIS class shipbuilding programs. The AOR fleet support vessels, the Oberon class submarine acquisition and *BONAVENTURE* decisions. There was the introduction of the helicopters at sea and the ASW specialization of the Navy. At the time of your

retirement in 1973, the issues of the GP frigate in its mutated form of DDH 280 were well in hand. Of course, during all of this you and others like Admirals Landymore and O'Brien were also helping to save the Navy from the worst of unification in the often adverse political climate. However, unification and politics are really well described in your interview with Lund. Also the personnel system changed completely during your time. You saw the demise of the specialist officer and the rise of the general list officer and the user maintainer. Just before your retirement we see again the groundwork for the new engineering discipline of the combat systems engineer and a separation of the operator and maintainer functions. In all of this there must be lots of stories, so let's begin.

INTERVIEWER: Admiral, can we start off by a summary of your career from the time that you joined the Navy until you retired? Just sort of highlighting the high points about what we are going to talk about today.

CHARLES: I finished my senior matric in Rouleau, Saskatchewan at the age of 15. I applied to go to the Royal Military College and they said I was too young and I had to continue my education. I went down and played hockey and baseball for Father Murray in Wilcox, Saskatchewan and Notre Dame University and got my second year Arts and an amazing experience with Father Athol Murray. I joined RMC in the fall of 1935, along with about 67 other people from various parts of Canada. In those days you paid to go to RMC. There was no requirement to join the regular forces and the only thing was there was a commitment to join the reserves. This meant that after your first year at RMC you were expected to decide which reserve training you would like to go. We'd done a time up at Petawawa and I decided that Petawawa and mosquitoes and sand wasn't quite the right thing, so I went along with nine others down to do naval training in Halifax.

Bill Landymore was one term ahead of us at RMC so we had a little bit of information about this from Bill. Down to Halifax we went in the summer of 1936. We came back and proceeded with our training at RMC and in, I think it was March of 1937 a fellow called Mainguy, who was a Commander at that time, came down and said was there anybody interested in joining the Navy and O'Brien and I tossed a coin and decided we better go and talk to this fellow. We were given 15 minutes to decide whether we wanted to join the Navy and all Mainguy said was if you joined the Navy we will send you over to do the Naval training in RN and then you'll come back and join the RCN and we signed the piece of paper. As far as I know we didn't do any examination, medical examination any interview in any way.

Anyway we got our notice saying you're in the Navy and off we went in the fall, well no, it was in August of 1937. This was O'Brien and I plus Frewer and Timmy Porter, Bob Timbrell, Cossette, Dudley Elcock, a French Canadian who was lost. I'm sorry sometimes I'll forget names but anyway there were ten of us and we went over and did the normal thing. The six of us were executive officers, but Dudley and Cossette and the French Canadian, they had eye sight problems, so you couldn't ... they had to have 20/20 in those days. So having spent about five days in London getting our uniforms fitted we

appeared in Gieves which was natural in those days and they put us in our blue uniform on Monday morning. I think it was the first of September 1937 and they said okay go down to join *HMS EREBUS* in Portsmouth. We said what about our luggage? Oh that's all fine that will be happening. We left our civilian clothes at Gieves. We got down to *HMS EREBUS* and there in a chest of drawers, as you know we were sleeping in hammocks in those days but we had a chest of drawers, all our uniforms and shirts and collars and everything were there duly labelled with your name. The service was last year. It was excellent, but anyway, that was a good introduction to the system. As far as life in the, this is with *HMS EREBUS*, a monitor, a 15" monitor which was used during World War I and it was also used in D-Day in World War II. It had triple expansion steam engines, but it did have oil.

INTERVIEWER: Like our frigates.

CHARLES: Yes. Basically this was just a three month course to introduce you to naval uniforms, naval customs and that sort of thing. In our body there were 60 some of us. They were called what the Brits called Pubs. This was the public school entry, the people who came from the public schools. There were also people who came from the merchant ship schools Conway, Worcester and there was another one. Anyway Timbrell and Timmy Porter, who was lost in the War, were Conways. All of us were put together. We did not have the Darts [Dartmouth cadets] there. We did three months there and it was all basic training and I had no problem, I was top of the class right from the start to the finish the whole process. And Scruff [O'Brien] and I were [indistinct words] just from what we had been through all of this before.

INTERVIEWER: What are the Darts?

CHARLES: What?

INTERVIEWER: The Dartlets.

CHARLES: The Dartmouth entries? In the Naval family they would send their kids to Dartmouth at the age of 13 and they put them in a naval uniform and they were there for the rest of their life. Anyway, when we finished the *EREBUS* training we then went to the seagoing training part of this which was with *HMS VINDICTIVE* an ancient cruiser which was fitted with six cutters and six whalers. We seemed to do cutter and whaler training everywhere we went, and the first and we were then joined by the Darts so the size of the class increased considerably, by another 30. We got to cruise the West Indies and you go to you know Tortola and do all the boat work and then you go to fine places like Antigua and Barbados and Jamaica and we went at that time to Puerto Rico, San Juan and it was the first time we ran into the US Navy, we were terribly impressed we thought it ... We finished that and we came back and the second cruise and now we were senior leaders - we were junior cadets and senior cadet - typical sort of public school type of thing and so you were given more responsibility like you know the Coxswain of the Whaler and Midshipman of the Watch and that sort of stuff. It was right after the Baltic, the Baltic cruise. We first of all went to the Glasgow Exhibition in 1937.

INTERVIEWER: '38?

CHARLES: '38, yeah '38 and then we went off to Oslo. We went to Helsinki, in Finland, back through the Kiel Canal to Edinburgh and we were finished they said now you're midshipmen. Ah, an interesting thing about that, as you stood in the class you had the opportunity to choose where you wanted to go. I was top of the class right through; Scruff was sixth in the class. But the three of us, Frew, we all wanted again to go together. There was a guy called Ambrose who was dealing with .... Anyway ... we said we'd like to go to the Far East well we thought that was rather different and so we got notice that we were appointed to the *HMS LIVERPOOL* which was one of the new Cruisers. In due course Ambrose got a letter from the CO of the *LIVERPOOL* "Please make sure that you get three good cricket players". Frewer was a good cricket player, but you can't say O'Brien and Charles knew much about cricket to begin with. So Ambrose sent for us and said well now so they don't really think you're the right people to go to the East Indies Station. So he got us a job in *HMS BERWICK*, which was then C-in-C West Indies Station, but it was in refit in the UK and we were to go to the Battleship *ROYAL SOVEREIGN* temporarily so we ended up in *ROYAL SOVEREIGN* in August of 1938 at the beginning of the Munich crisis.

So off we go to Scapa Flow for the next two months and they had mobilized much of the fleet there. There was a call up of a lot of the reserves. There was quite a large number of people there. But the wonderful thing about this was, forget about the battleship, I was given the steam picket boat. Nothing can be better training than running a steam picket boat. You have a crew, there's a coxswain who looked after the cleanliness of the boat, a bowman, a third shipman and a stoker. It was his responsibility to have steam and he was also the operator. This was the user maintainer system. When you went "ding" he gave us slow speed ahead, if you went "ding, ding" he went full steam ahead. If you went "ding, ding" - shifting a triple expansion steam engine into reverse I can tell you is a very complicated throttle.

A lot of engineers couldn't solve it. How the hell my stoker did, I don't know but usually he got the thing to go astern. Oh they were great vessels. You were entirely responsible and accountable. If you banged the jetty or the landing steps or did any damage to it that was your fault. You couldn't go anywhere until it was fixed. You had to supervise all the... and you had to go and get those drunken sailors off the jetty at 11 o'clock at night and get them into your boat and get them home. So running a steam picket boat was a great experience.

INTERVIEWER: What would be the complement of the picket boat?

CHARLES: Of the battleship?

INTERVIEWER: No the picket boat.

CHARLES: The picket boat? The picket boat had just four and me.

INTERVIEWER: Just four and you.

CHARLES: Midshipman of the Boat that was the title, Midshipman of the boat. I will give you another example of the problems involved. When we were midshipman in barracks we were running boats only this time we didn't have steam picket boats we had proper gas engine boats. But anyway we were at the dockyard in Bermuda and the landing place where all the people, all the kids that were going ashore was Hamilton and it was a way across on the other side of the island. As you know the island is a hook, but you could cut across because although there was a dredged channel in there for the big ships, but we knew, and there is not much tide there anyway, but when it was high enough, we could cut across and I was coming home one night with a happy load of sailors ... [indistinct words] and suddenly somebody said let's go for a swim so everybody in the boat, they were all in their white uniforms, piled into the water because it was only about four feet deep. So you get back to the ship. Snotty, why are you late? Why are all the sailors wet? And he considered I was entirely responsible for the circumstances [laughter]. Oh I was very clearly ... [indistinct words].

However, the only other interesting thing from an engineering point of view, from my battle station or action station in *HMS ROYAL SOVEREIGN* was Officer of the Turret. It was a 15" two gun turret on the quarterdeck of the *ROYAL SOVEREIGN*. I forget exactly what the number of crew were in that turret, and it was provided with ... and the shells, 15 shells, stood about very nearly five feet and weighed about a ton.

INTERVIEWER: Like a Volkswagen.

CHARLES: Yes and you used cordite and depending how many cordite bags you put in it depends on how far the shell would go. Well, the process of getting those shells... Oh first of all, the cordite up, and the cordite was in the magazine, and the shell was in the shell room and I never really did know what happened down below. This all worked on low power direct current and hydraulics and it was absolutely amazing how quickly they could get up there and load that gun. I was terribly impressed with this technical aspect of how the hell anybody could possibly manage that.

Anyway we spent up till Christmas in *ROYAL SOVEREIGN* and off we went to where we were supposed to go which was much better. She was wearing the flag of C-in-C West Indies and we were based in Bermuda. There were four cruisers in the West Indies squadron. I remember now we were after the crisis and everybody knew the Navy was going to war. They knew it right from that day we were up there at Scapa Flow. Everybody was convinced that the war was coming. During the spring of that..., the Canadian Destroyers were down there too; this was in the spring of '39. We played exercises and we knew what the enemy was. The admiral sat in the admiral's cabin and the various captains of the cruisers sat in the other thing and they sent messages to one another. Of course they knew they were dealing with a pocket battleship, which was...Germany had three of these ...[indistinct words] and so, you might say, the Battle of the River Plate was fought on the tables in the admiral's cabin in Bermuda, basically.

It was exactly the way it happened. So people were really quite serious about it. However, that year was the year the King and Queen came to North America for the opening of the World's Fair, and so naturally we had to be in New York for the opening of the World's Fair and that was really quite an experience and I really enjoyed that. The Americans were very hospitable to us, not that I particularly liked New York, but kindness we got.

We then came up to Halifax, over to Newfoundland, up to Montreal and on the first of September we were in Bar Harbour, Maine, which is, of course is the summer cottage of many wealthy New Yorkers and we had on the first of September an invitation to a party by Mark, Theodore Mark requests your pleasure at a reception at Bide-A-While, Bar Harbour, Maine. I remember it very specifically. Funny your memory clicks on that. Anyway this reception was held at ...and they had all these girls ... quite a number of whom we had met in New York who were up for this reception and they were looking for men. That's basically what we were. Anyway it was about midnight when we got this message, was what started it anyway to prepare for war. Well the British Ambassador was there too, happened to be there.

We all turned to and the first thing we do is get rid of all the tiddly woodwork, all the gratings over the bollards and the caulking to put in the gun and otherwise improving our fire, safety regulations. Nobody knew the hell what to do with it and they lowered all of this in a barge and left it in the hands of the British Ambassador and we steamed out. It was a foggy morning so nobody could... as I said we looked around and the turret wasn't there anymore and my, we didn't get anywhere near a post office for about .... I don't know, the convoy out of Halifax I think was September 14<sup>th</sup>. Anyway we then had to write a letter to Theodore Barbour [Mark Theodore in Bar Harbour] with regrets that we were unable to continue their party because we went to war.

INTERVIEWER: Yah regret ... gone to war.

CHARLES: Sorry is this boring or is this too long? You wanted stories. I thought you were in engineering, but this has to do with education.

INTERVIEWER: Right.

CHARLES: Anyway we had a clearly defined job. We were to go down off, and they told the ship's company that we were going to do it, down off the city of New York because there was a German liner called the *BREMEN*; you know these were all these transatlantic liners. I'll come back to that later on, but anyway I was the midshipman of the boarding cutter and we didn't have a motor on the boarding cutter. We had 12 husky sailors who pulled weight. The officer of the boarding party was a fellow called Meno we used to call him Zippo and we had an engineer officer, a young Healey,

INTERVIEWER: Ed Healey?

CHARLES: Well, I think he was some relation, I'm not sure of that. This is ... I will run into this name trouble quite frequently on this. But anyways that was what made the boarding party. This happened time and time again later on, but this was the first event. So that midnight just before we got there I was on watch with this fellow Meno. I was a midshipman and you know we were standing watch with some of them, bridge of this Cruiser. So I said to Meno "Shall I draw a revolver? And at RMC they had taught us to use revolvers. All my time in the Navy nobody ever taught me how to ... they gave us revolvers during the invasion scare, but nobody taught me how to use it. Anyway I said to Meno, "Shall we draw our revolvers?" "A revolver? What do you want a revolver for?" I was sitting there thinking 12 husky sailors and Meno and me and a ship you know as big as the Queen Mary. What the hell were we going to do when we boarded this ship? That was a good question. Meno didn't think it was a problem at all.

Well, anyway they didn't have radar, or RDF as the Brits called it in that day, and the navigator insisted that we stay outside the 12 mile limit ... yes, they had a 12 mile... It was a foggy period anyway and the volume of traffic that was going in and out of New York is tremendous so we steamed back and forth and we did what was called the [Peseo?] curve search. This was something navigator's worked out that you know where somebody is going at a certain speed and you can go faster if you started going in a big circle you will run into them eventually. In fact that did work on a couple of occasions, but it didn't work in this one because I don't think the guy stayed on the track he was supposed to stay on. Anyway we didn't do that. So back we went down to Jamaica to take a convoy which was ... the convoy ... it was really quite remarkable. The convoy system came into being literally on the 3rd of December. We took a convoy over to join up with a convoy which was coming up from South Africa. Remember at this stage all the German ... the *ATHENA* had been sunk by a U boat which generally ... all the German U boats, of course, were in the Eastern Atlantic; there were none in the West. Here in the Western Atlantic was the pocket battleship.

INTERVIEWER: Are we talking 19 ???

CHARLES: No we're talking 1939 in the fall, no sorry, I beg your pardon yes that's right, the 3<sup>rd</sup> the fall of 1939. So then not from an engineering point of view, we then went up to Halifax and we were the senior operating group and the major escort for the HS1 out of Halifax and by that time they had assembled in Bedford Basin. Now there were only British and French ships in that convoy. The others were offered the opportunity to go in, but all the others were neutral and the ocean was full of neutral ships. But anyway, the first thing we did, this will come up time and time again; we went to the refinery to get fuel. You know the cruiser used a lot of fuel but [to start] steaming around the ocean the one thing you need is fuel. That kind of struck me as important at the time although I didn't realize how important it became later on.

Then, we went down to the ammunition depot, down at the bottom of the Bedford Basin and loaded 8" HE shells. What were 8 inch HE shells doing in a Canadian magazine? They'd been put there by the Brits for exactly this reason. In other words, somebody had prepositioned it. This is time and time again comes up ... the infrastructure involved in



this process. So we took the convoy over ... we didn't go all the way. As you know there weren't submarines in the west. We took them over and we were met by an escort because normally we met them at 20 West. The escorts come out from the UK.

So we turned around and went back south again. We went down to Trinidad, I forget whether it was...I forgot, I'm sorry, I am a bit vague about this period of September and October. That was the only convoy we took out of Halifax was HS1. We were involved in the Carib because there were oil cans in the convoys. The other thing was ... Oh I know that's what we were doing; we were boarding any ships that we thought were conspicuous. Any ship we found we would go and see; a) get his name and number. They had a system called checkmate. You didn't want to use WT at sea, there was radio silence, but if you found a ship who said his signal letters were so and so or said his name was so and so you would just key on it to the Admiralty; "check and the number". All they would come back with "mate". Then you knew he was okay. You can imagine the efficient system with no forms or no nothing,

INTERVIEWER: No forms or nothing yeah.

CHARLES: Just as simple as that. We got a couple of funny ones we were sort of scared about but we didn't have any trouble at that time. Now it must have been about October, we were ordered to go back to Greenock. I think they gave the ship's company a week's leave because they had been away pretty well a year and then we went up on northern patrol. This was the northern patrol that ran from Scotland to the Faeroes to Iceland. Iceland at this stage of the game was neutral and then the Denmark Strait. The large County class cruisers, which were available, were employed on the Denmark Strait which is just north of Iceland. The Arctic Circle goes through the north of Iceland. So, to go from Trinidad to north of Iceland in November, December was not a particularly charming cruise [laughter] and we had no damn equipment in the ship to cope with it. We were eventually getting seaman's sea boots and good women were knitting us socks and sweaters and things like that. So that patrol system it was on a fairly standard basis. We were based in Greenock, Tail of the Bank, and it took us two days to get there. We were there I think it was 21 days round trip and we did that all that winter until the Norwegian campaign. We took two German merchant ships and this is where this genial crew is searching. There were a lot of Icelandic fishing boats out there and just whose side they were on we were never quite clear.

INTERVIEWER: When was this about?

CHARLES: January I guess. A fish boat came up and said a ship has just gone by. So we went out this line and this guy didn't have much option, he could only go through the Denmark Strait you know. We certainly had speed of A [advance], which typical until we get Peseo[?] Curve Search; then bango. And it was quite foggy too. But anyway we landed right slap on him. "Stop". "Do not transmit". You know that sort of... "Away boarding parties". Off we go to board this merchant ship; I forget the name of it. Anyway the crew had opened the sea cocks and we didn't know it at the time and they were all in the boats. So we went alongside this ship – Meno, old fashioned, you know,

“follow me”; up he goes up the ... there was no ladder, but he got up there somehow followed by the engineer officer and the Chief Engine Room Artificer. The engineering people went down to the engine room to close the sea cocks. Meno went up to the bridge to get the charts and any papers he could there and he yelled down to me, “Sparky go and put out the fire”. So I knew this ship, we knew that the ship had sailed from Chile and was loaded with ...contents of ammunition ... nitrates, okay? My chemistry was working through my head ... nitrates ... anyway we went up. There was a break in the foc’sle and so we opened that and the flames just poured out of there. Of course, there was no steam on the ship, no water and putting out this fire under the circumstance was just not on. So I yelled up to Meno, I said “we cannot put out this fire”. So I went back with the few crew, that I took out from my boat and the ship began to heel over. Obviously the water was beginning to have an effect down below so I yelled up to Meno that if he didn’t come soon I was going to have to move otherwise and the ship [missing dialogue]. He eventually came down and he’s got all the charts and we got the engineering people back on board. Then Meno turned around and went right back up again and he went and he got the ship’s cat. That’s absolutely true (laughter). Of course, you see what a frail spot I was in at this stage of the game. Anyway that was that ship. The next one we captured. Oh I know, we used it as a target practice. So as soon as we got clear the ship started turning [missing dialogue].

### **End of Tape 1, Side A**

### **Start of Tape 1, Side B**

CHARLES: Very good, Sid, well we’d done all that. I went to sea in *RESTIGOUCHE* while I was in England during all the invasion scares doing sub [lieutenant] courses and I mounted six inch naval guns along the coast of England during the summer of 1940 after Dunkirk. I went to *RESTIGOUCHE* as a sub-lieutenant. I was the typical sub-lieutenant; communications officer and cable officer. Normal - we all went through that drill. They then asked us to apply for specialist courses and so O’Brien and I both applied to be what they called signalmen. They didn’t use the work communications and in March of 1942 O’Brien and I joined the .... I forget what the hell it was in Montreal. O’Brien had been in *SAGUENAY*, the destroyer *SAGUENAY*. Funny enough one of our companions was the Commander of the *PRINCE of WALES* which was something.

Anyway we went over to the UK and did this long course down at the Signal School which had been bombed out of Portsmouth while we were there and so it was now up at Lady Peel’s house, a stately home of England, just outside of Petersgate and there were 12 of us on the long course, two Australians, two Canadians, one a soldier G.B. Southerland and the rest there were four admirals on... James ..., Michael ..., Chris Dwyer, oh John Somerville. Anyway that was the composition of the course and long signals training. It wasn’t highly technical, but at this stage of the game radar was still in the, or RDF as the Brits called it, was in the communications fraternity. I’m not going to get into that debate but you can ask questions about it. Having finished that, the normal drill was that when you finished this specialist’s course you went off to do follow-on training in the Mediterranean.

INTERVIEWER: Here we go, Communications.

CHARLES: I was appointed in *HMS LAFOREY*, an L class Destroyer, Captain D of the 19<sup>th</sup> flotilla. I was the signal officer of the 19<sup>th</sup> flotilla and responsible for the communications training capability/operations and what were initially eight destroyers in the flotilla normally. I had a very senior captain, Captain RMJ Hutton who had by the time he left the ship had 3 DSOs. Now there weren't many people in the Navy that had that. So that was the sort of Captain I had.

We, of course, were scheduled to go to the Med and that's what we did. We went to the Med for the landings in North Africa. As the Brits moved along the North African coast to Algiers we were formed into what was called Force K which had two cruisers and four destroyers and the aim of the thing was to disrupt primarily the enemy traffic between Sicily and where the Canadian traffic were going to town. That's what we were doing and it was a pretty hazardous time you know - bombing raids; consuming exercise. You couldn't go anywhere in the Med without getting bombed. And when we were in daytime and when we were in harbour we provided to Bône, just this side of the Tunisian border. [It] was the main supply base for the first Army, and so all of the ammunition and fuel and things that the Army needed was landed in bulk and we used to provide the air defence. The ships would tie up alongside the jetty and we were tied up outside air defence. This was in late December and January of 1943. We were having four or five air raids a day so it was pretty exciting. We couldn't go to sea all that often. I have a diary of all the records, because the navigator and I used to write reports of proceedings so I used to keep the records.

So anyway we were in this problem of communications. Now the first thing we demonstrated a base fact that we were faced with. The RN had been operating the home fleet and Force H and they used to manoeuvre us around and Force H around on low power, low frequency HF Morse. I can tell you well I think some of the business [indistinct words] in the middle of the Sicilian Narrows with low powered keyed Morse was not the way to operate ships so I learned that very quickly. Fortunately as you know, you couldn't operate aircraft that way either and the RAF had instituted voice VHF – voice radio for their fighters where they were to go. Gradually as the fighter defence...[missing word] the cruisers were all fitted with a) there was radar capability and b) the plotting capability to direct fighters. So what they needed was what we called a push button VHF set at 100 Megs. It had four channels and they were fitted so the ship could talk to the fighters.

But funny enough this communicator, Harcourt was the Admiral in this group, Force K, and his signalman was a fellow called Johnny Parker who had done the same long course as Mickey Stirling and after he had been stationed in Halifax with the battleship [indistinct words] when it was there. I went into his cabin there was all the pictures of the woman I knew he'd laid; one of my girlfriends during the previous summer. Anyway Johnny and I got along fine and it was quite obvious that we'd never get these goddamn

packages stuffed into our destroyer, which we didn't do. I think we were the first to do that.

So we were now doing basically what the Americans were doing on their TDS. We were manoeuvring on voice radio direct onto the bridge. It didn't go through the plot. This was an open bridge and I was up on the starboard quarterdeck [up on the bridge] at this point and I had this score... [indistinct words] plot and you just couldn't have worked. Now also, as I said you couldn't operate in the daylight at this stage because you were too close to the Sicilian airfield. So they used to give us fighter ... and by that time they managed to get the Spitfires further along the coast, they hadn't got as far as Bône [Algeria] but they could give us cover for about an hour out of Bône so we used to schedule our sailing an hour before sunset and get back an hour before sunrise. We couldn't direct the fighters, but we could tell them you know where they were, by our radar, where the targets were. So quite frequently I would get a Canadian on that goddamned set; incredibly one was a classmate of mine... [indistinct words].

Anyway that's the change in what you might call practical communication. It was a drastic change from anything, you know; manoeuvring by light [Morse]. This is the start of the rapid change that began to occur.

INTERVIEWER: The kit you were getting. Was that British kit or a French kit?

CHARLES: It was an RAF that was the fighter set, the set that they fitted in the Spitfire. It was called the Type 86. You know the Brits named all their radio sets with numbers I guess. So the next communication problem was quite a different one. After the final stages in North Africa there was lots of junk around. There was an old disabled tank there and it was just outside Tunis and I went and took the radio set out of it. It was the best bloody radio set we ever had. We used it all the time for the rest of our time in the ship talking to the FOOs [Forward Observation Officers] on the gunfire squad, you know bombardment.

So the other thing I will tell you and this has to do with organization and infrastructure. The RN were usually running the normal process of having a flotilla and a Captain D who was responsible for the administration and the maintenance and all those things, training. Of those eight L Class Destroyers by 1943 there were only four still afloat and this was similar to Tribals who were out there - D6 was there in *ESKIMO*. There were only three of them *TARTAR*, *ASHANTI* and *ESKIMO*. So as we lost it, we lost *LIGHTNING* in February, we would gradually get replaced and so you no longer had a common bunch of ships you had a whole ... they didn't even know what the tasking frequency... you know.

So the American system of using task force numbers and assigning people to task forces for operational things and having the administrative tail completely separate was for me miles ahead of the system. You could simply go back to these escort groups and it was the same goddamned problem. You can't man an escort vessel. So anyway that comes

up again all during the discussions later on. This is what you might call administrative support of operational ships.

Okay well, the next side of this communications thing was, and again it was relevant to much in the future, was bombardment. We were close-in fire support Force K... [indistinct words] group. This Force K was designated in-shore close fire support for the Army. We were supporting the Canadian Forces on Bark West I guess and aid the initial bombardment and then be on call for the FOO.

Now setting up these communication challenges with the FOO became a major problem and quite different from anything else we had experienced. The Canadians moved in so fast from their beach that we had a range with those 4.7s of about 21,000 yards and they were very rapidly beyond our range. So we weren't in the bombardment business with the Canadians, but old Montgomery needed a bunch of people round on the other side of Sicily got held up in Catania so all during that period we were bombarding practically every day. We were north of the enemy line, no we were behind the enemy line, but the communication problem was to get in touch with this guy called the FOO. They had a bombardment calling wave on which all the FOOs were and we were and then when a FOO came up and said he wanted to fire the bombardment caller would say you are allocated ... and they did it by call sign F1, F2, F3 and that was all you got. You were talking to F1 on frequency so and so. The frequency was the number.

INTERVIEWER: FOO?

CHARLES: Yes, FOO - Forward Observation Officer, who was normally an Army artillery officer. Now you were in touch with somebody who you didn't know. You weren't even sure it was him. You didn't know where he was and you didn't know what he was asking you to shoot at other than it was some goddamned mark on a map. That's absolutely true and we fired thousands of rounds under those circumstances. It was incredible. You know it's hard to believe. Anyway once you got in touch with the FOO, he would give you a six figure number which was off an Army map. We had the Army map. The poor navigator had to convert by going from, usually a lighthouse and he would take that and put it on the chart and we would figure out where they meant. Then the gunnery officer now knowing where the place was by having at least a bearing and approximate range, we then had to put the guns on the bearing and range and then we would then fire two ranging shots. This was the standard procedure. I had a Tel Op and we would do this on Morse mind you because the voice radio for that distance we never knew how far away this battery was. It might even be up on Mount Catania [Etna?] as far as we knew, quite literally behind enemy lines. Dah dit, dah dit, dah dit. Then guns started. Splash, you got that and then the guy at the other end was supposed to see where the hell it hit. If he saw it he could say "up two" or "right three" you know and we would fire once. We got the second... there were two ranging shots, then fire perfected. We were firing six guns 4.7.

Now the infrastructure side was fine. In the Atlantic it was fuel, in the Mediterranean it was ammunition. We were always watching it because a) it was air defence (A shoot?)

and [emphasis] we replaced the liners in those guns three times from the time I was... Anyway this was an interesting communication problem.

INTERVIEWER: Can you just refresh my memory what class of ship that was?

CHARLES: They were the L Class Destroyers. They were the last pre-war designed destroyers and they had, different to the Tribals, those 4.7s in the Tribals wouldn't cock up, they were in a cage. These had 4.7s in a turret and they were HALA. They were all sent to the Med and they were all sunk in the Med in enemy action.

INTERVIEWER: And these destroyers belonged to the RAN?

CHARLES: No, they were all ours. The Australian ... there was another lot ... they were called M. The Australians bought four of the Ms, which is what we should have, but however that's a separate subject.

Okay well that was the bombardment. For the rest of my time in the Med primarily we would, we took the first convoys in to Salerno. We were bombarding there. We were hit by seven shells from an 88mm battery. We took the first convoy in to Naples. We supported the Americans you know when they took the monastery, there was a crossing of the Rapido River. We did fire support. We were on the west coast with it all the way up supporting the Army literally from the Straights of Messina to Anzio. We were at Anzio. I'll just mention Anzio once again. At Salerno we had run into, for the first time, the guided bomb. [HMS] *UGANDA* was hit by one. [HMS] *WARSPITE* was hit by one. There was an American cruiser hit by one, and an American destroyer the [USS] *MANN*. They were extremely accurate. This was bombing on a completely different scale. When we got to Anzio, the [HMS] *SPARTAN* was a cruiser that was hit while we were actually in anchor there along about the second day in fact. We were North of eh... In the night we would... the whole of the Anzio anchored were outlined against the setting sun. And we used to steam around the setting sun and put smoke along and then we would steam up towards Elba to keep away the E boats, German boats and on up. There were four of us. The last time we had picked up two of the Js [Junkers?] on that patrol. *JANUS*, *JERVIS*, ourself and this other guy. We were two or three miles apart ... 2 miles apart... [indistinct words] and this damn airplane came out of the murk that you get from the shore thing on your radar clutter(?). In fact you've got an aircraft coming from behind and he went straight for *JANUS*, which was the eastern one. And we saw it. We didn't see the bomb leave the aircraft. It was when the red flare that we knew he was in a jam and *JERVIS* was firing like hell at this thing. The bomb hit the after magazine and she just blew up. The airplane kept coming and he .... *JERVIS* was just shooting at him like hell. We saw the bomb again light up and it hit *JERVIS* just forward in the foc'sle and he lost his bow just after the cable locker flat. He shored that lot up and he went all the way stern-first to Gibraltar. Nobody was hurt.

The third one was coming at us. I had all the transmit ... we had known about this thing. We didn't know exactly what the frequency was, but they knew it was up in the 60 Meg band and we didn't have any transmitters that would go that high. Nor did we have any

receivers that would receive that high, but we were hoping that we'd get a composite where you transmit on 30 you can get 60. So we had every transmitter ... we had five high power HF transmitters, which were CW they weren't voice and before AM frequency we hooked them all up to a remote control on the bridge. The voice one got hooked onto a microphone and the others onto a Tee and when this happened I told the Tel O who was with me, Hazel was his name, I said "Key that with any goddamned thing you want, but as fast as you can". And so he was keying every time. And I put my electric razor, I had it on the bridge because I used to shave during the air raids, under the ORT and this goddamned bomb, came ... he suddenly dived into the ocean oh about maybe 100 ... 150... starboard quarter. He looked at me and he said, "Did you hear that?" I said, "I don't know." Thank God. You know you wiped it off.

Anyway the questions of missiles or rockets and electronic warfare started then. That was always in my mind and it still is and it should have been all during the time that we were dealing with building ships. And the question of missiles in the ships and... [indistinct words]. So that's when this thing started and at least I had some experience with what was involved. Naval warfare changed with that game. There was no question. You know this just wasn't happening in the Atlantic and that was one of the problems but anyway let's end it now.

So okay now having finished all that I came back to Canada. And so now we start getting into what you are interested in. I went to St. Hyacinthe [HMCS St. Hyacinthe, Quebec] and I was running ... we were teaching at St. Hy, Signalmen, Telegraphers, Coders, RPs and Main... Anyway the guy who maintains the electronic equipment and the radar was ... that training an RP.

INTERVIEWER: Radio Mechanics?

CHARLES: Yeah, yeah, that's right – radio mechanics – that's it. They were quicker. That was the first time that that trade appeared because normally the PO Tel was the maintainer. So the question of radar and again it was this funny business. The guys who were looking after the radar people had a hell of a time because every cruiser in the navy in the Med had a Canadian radar officer so they'd been exposed to a completely different war. This was the guy who was trying to slug it out in the North Atlantic in a corvette.

Anyway the problem of how you, the electronic system was changing. At this stage of the game, the government, this was in the spring of 1945. The government decided it was going to send ships to the Pacific war and the Brits offered them *UGANDA* which was in refit down in Charleston as a result of this Salerno exercise. Sam [Worth] said go down to *UGANDA* and make sure they're fitted to join up because they were going to go across the Pacific; they can operate with the Americans. We knew from this... [indistinct words] we couldn't even talk to the Americans on the radio.

INTERVIEWER: Was this because ...[indistinct words]?

CHARLES: The only way to talk to them was the flashing light in plain language or Morse or in international Code of Signals. Other than the wackies, or the western approach thing for the convoys that was the situation in the Med. Anyway, so I went down and got *UGANDA* fitted with two TDS which is the voice radio thing that the Americans used and it was in the 60 Meg band. At the time Bill Landymore was gunnery officer in the *UGANDA* and he was looking at American radar. Just what he ended up with in the end I don't know, except when I came... Okay. Now there was one other thing about this American thing. As a result of this decision, Sam sent Scruff and I down to the PG, the Post Grad, School in Annapolis along with an RN Commander called Hampton Gray.

INTERVIEWER: Can I just clarify? The decision is the decision to now go to the American's system?

CHARLES: It hadn't been made at this stage of the game. The decision to send ships to the Pacific by the government had been made. The ramifications of it was reeling and they went right through to the engineering I can tell you that. But in order to process it, O'Brien and I went down to Annapolis and we were there at least three weeks, I guess. We were basically getting the equivalent the Brits Conduct of the Fleet was a tactical document and the Fleet Signal Book was the basic thing in manoeuvring ships. The Americans did exactly the same thing except it was called USN 1 the Signal Book. Anyway it was exactly the same thing except the content was different. In addition to learn all that we then went at the equipment as best we could in Annapolis. The guys were very helpful.

So now I am going to describe a complicated process which circuit business. In order for a ship to receive messages you had to have a broadcast. The Brits had divided the whole world into broadcast areas and for each area they had set up a major high powered low frequency transmitter to give them a range of about 1,000 miles. In Canada it was at Newport News [Newport Corner, NS]. But there was one of these things everywhere. In addition to that for each broadcast there were at least three high frequency transmitters covering in range from 4 Megs up to 12 Megs to cover the range. So that was the way you got a message to him. And all of those on that broadcast would be keyed by one key.

INTERVIEWER: HF bouncing off the ionosphere?

CHARLES: Yes, that's right. By working out that you could cover the whole broadcast yeah, yeah. So now in conjunction with that was how did the ship get the message to shore? And so tied in with every one of those broadcasts was a receiving station, a completely separate and individual receiving station listening on what were called ship-shore frequencies. And there were at least four of them forgetting about the harbour frequency which was about 2410 which was a local harbour thing. The fellow in the ship would call on what was called a calling frequency. One of the guys in the receiving station could reply on an answering frequency, which the ship knew, or we could indeed key the broadcasting frequency, but he would tell the guy which frequency to key and then he was in the business of receiving. Again, all of this done in Morse. All of these



stations were tied together by landline. You know with the cable across the North Atlantic from Halifax to Bamfield, out here [Vancouver Island]. There is a cable from Bamfield to Waiouru in New Zealand. In other words the whole bloody lot all were linked by landlines.

Now, here's where the problems start. They said well as a teleprinter you can run... Let's explain the difference between the Americans and the Brits. The American system used to be called teletype is on the 60 cycle system; 60 baud. The Brits don't have the 60 cycle system, they're on... [indistinct words] so they have a 50 baud and there the three will be. Goddamn. That's the sort of problem we were faced with constantly. Anyway you could send the messages through this broadcast system on top 60 words a minute. That's a little bit different. So the Americans had.... If you could type 60 words a minute you could send it or at least you can put it on tape, you can speed the tape up to 60 words a minute. You can type at four if you want but it would be a two hour tape. The tape ...

INTERVIEWER: I remember working on this as a Radio special.

CHARLES: I'm sure, I'm sure you would yes, so the tape may... [indistinct words] on. Now this is something that you know the stock market's been using for years. Now they're still taking what you might call a civilian thing and adapting for the service okay and this is quite common, but this is what happened initially. The Americans had the same, very similar system except that they had different frequencies and they had their stations in different places. In our particular case in the Pacific if we want to send messages to a person in Hawaii we had to get it through; there was no British station in Hawaii so it was in our interest for the two bastards to get together.

In the meantime from the maintenance point of view we, and as I say Doug Carroll was the CO of Newport News [Corner]. He was an ex-PO Tel/Warrant Tel and he operated and maintained that transmitting station practically for the last days of the war. That was the user/maintainer. That was the way it worked in practically all the receiving and transmitting stations. Of course here [on the west coast] the transmitting station is over at Sumas and the receiving station is Aldergrove. They are still there... [indistinct words]. They were absolutely essential to the handling of traffic in the North Atlantic. The Halifax station couldn't have done anything without it. This, I want to emphasize the importance of maintaining the quality of these stations. I think, and you can check on that, the radio equipment from that station was Canadian produced. I'm not sure of that, I can't say that with certainty.

INTERVIEWER: Are you aware of any Canadian producers like Canadian Marconi?

CHARLES: Marconi during the war, and I don't want to go into this too deep; the Admiralty just couldn't supply enough equipment, they wouldn't create it in a box and all the packaging. There was always argument about it. You can get what's his name [Bob] Battles in Ottawa tells you all about that hassle. Certainly Marconi all the same we always had a Marconi fellow on his staff and practically all of those corvettes and

frigates were fitted with Canadian Marconi radio transmitters and receivers. The transmitters were PV-500's and the receivers were CFR-5A's, I think. So Marconi had built quite a large organization for producing radio equipment for the navy, I can't speak for other things.

There were other electronics companies. I can't be honest about this, but there certainly was quite a large number producing equipment. I'll tell you one particular one, which I know, but I'll just trip off. In addition to that short radio and transmitter, which had to do with communication with the ship, there was the other side of the coin which was intercepting the enemy interceptions which came into the communication world too. This involved two things; basically a) high quality receiving stations located in the appropriate positions and tied with them stuff called high frequency direction finder, Huff Duff, which is a cross check. These are not the ones in the ships, these are great big arrays, so you had quite large complex receiving stations scattered around

INTERVIEWER: These are big strategic information stations. They have one in Bermuda.

CHARLES: That's right. Originally it was the Brit's but we took it over. We manned it. We got into this business fairly.... [taping stops]

### **End of Tape 1, Side B**

### **Tape 2, Side A**

INTERVIEWER: Our interview with Admiral Charles on the 29<sup>th</sup> of July 2009, continuing on with the communications story.

CHARLES: Special receiving stations, these were designed to receive enemy traffic and analyse the traffic. In order to do this you had to site the receiving station in such a position where it gets the maximum return from the enemy transmissions. Related to that and much more complicated was the direction finding system attached to these receiving stations. Not all the receiving stations had direction finding stations. This meant that if you got a signal on an enemy frequency you a) read exactly what it said, b) you alerted all the other stations that had the DF station to get on it and you could quite frequently quite an accurate fix of the transmitting station. So in this sense it, these were very important aspects to the intelligence information all during the war. As far as Canada's concerned we had a station in Gloucester outside Ottawa, we had one in near Moncton, New Brunswick, we had one in Gander, Newfoundland, we had one for a while up at Fort Chimo in Quebec, we had Alert up at the top of Ellesmere Island, we had one at Churchill, Manitoba, we had one at what was then Aklavik at the mouth of the McKenzie River in the Arctic and one at Masset on the Queen Charlotte Islands.

INTERVIEWER: Was Ladler part of that?

CHARLES: No not in....

INTERVIEWER: That might have been an Air Force....

CHARLES: Now in addition to the Canadian ones there were also Air Force and Army ones. I know there was an Air Force one at Whitehorse and there was one over at..., but I can't remember but they were intercept... they weren't DF stations, they were intercept stations. All of the intercept traffic from this was fed into a common ground and you analysed the traffic for two reasons. One important one, tactically, was what they called traffic analysis. In other words if somebody wanted to send a message you had to send it to somebody from somebody. So somewhere in there would be a statement of who was to get it and as you watched the traffic, without knowing the contents of the message, you could come to some pretty obvious conclusions.

Same thing they were doing at Bletchley Hall in the UK and this all tied in to that and they were all linked by a communications link. I forget when the Americans came into this system, but certainly by the end of the war everybody was tied in together. Because of Canadian geography it gave us a bargaining position in many aspects.

Well I'll tell it now; I went down to Washington in 1947 and I used to work with the Director of Naval Communications down there whose name was Roeder, Freddy Roeder and the fellow I worked with was a called Colin Kirkson. He was head of the American intercept stations and we worked together linking all these together. It was a very good bargaining position if we wanted something from the Americans. Later on I can't quite remember we also manned the Bermuda station. I would also comment on them in that the sense that at this stage of the game certainly during the war we started training Wrens. Wrens special operators and a large number of the stations were quite frequently manned by Wrens and they were very good at it. So that's, that's a very important part in our contribution to the overall picture. So I'll finish there now and go on to the next side of the coin.

After I'd done the trip to the PG School in Annapolis we got back to Canada and started training all the Sigs and Tels for operating in American operations. So that was when we started on what you might call the tactical operations and the task force type of operations that the Americans used as opposed to the Brits. In the meantime of course the Battle of Atlantic went on in its normal way, but we were preparing ships to go to the Pacific. As far as I can remember I think they had two cruisers and *CHARLESTON* and ... *UGANDA* and *ONTARIO* had already sailed for the Pacific and I think we were going to send 11 destroyers and quite a number of frigates, so we had to train troops. I can't quite, it was certainly after VE Day that the government decided anybody going to the Pacific had to volunteer and that complicated the issue. A lot of the people we trained didn't volunteer and so. When the war ended Sam sent me out here [Esquimalt] as Staff Communications Officer on the west coast and to set up links with the Americans.

INTERVIEWER: Now that was Sam...?

CHARLES: Sam Worth, he was then director of signals division. V.G. Brodeur who was the Admiral out here and before he came here he was our man in Washington. He realized that was the only way to go out here if we were going to have any naval operations at all. So we went ahead and shifted over completely to the American system.

INTERVIEWER: Did that cause a lot of difficulties?

CHARLES: Oh people Hugh Pullen had a fit and it went on for quite some time until saving grace, the Russians. As you'll remember in 1947 the Russians began to take over in various places in Eastern Europe and the Western European people formed the Western Union. Then came NATO and certainly Lester Pearson was a keen supporter of NATO. We were in... For the Navy it was a Godsend. In 1947 I was the Staff Communications Officer in Washington and I was the Canadian member of the combined Communications Board which was the board which operated under the combined chiefs of staff which still existed up until NATO was formed. This was the U.K, U.S but in all through it particularly this communications thing was CANUKUS, Canada, U.K, U.S and we always had a special relationship about this because of our geography and it was terribly important to maintain. We started prior to NATO; we were the first ones and even the Brits agreed that we had to have a common communication system and a common code. So we started writing the books and Scruff O'Brien went down and was on what was called the Book Writing Committee. We had just got this going and in fact just about ready to print when along came NATO and the first thing SACLANT said is, "We got to have a common set of communications" and we were able to say, "Yes sir right here." We laughed all the way to the bank because that solved all our problems whether you liked it or not; there it was.

INTERVIEWER: There it was and you signed over to essentially an American system.

CHARLES: Well it's called Allied Technical Publication number one. It was a NATO publication and when Korea came along, what did we use? ATP1. So that solved that one. Now there were several other areas; this radio frequency is a good example. We all knew we had to solve this problem and there was an argument between the Brits and the Americans as to whether to go on the American route which was TDS and there was indication that the TDS sometimes could be picked up at a distance. Sam sent me over to the ITU conference in Geneva which is the board which had been in existence for years and works in a remarkable amicable fashion. It decides who gets what frequencies and all I had to do was try and persuade my American officers and Brit officers to get a common tactical VHF frequency. Lo and behold we did and in fact the ITU decided that this would be up in the 100 Meg Band, which were where the Brits were and the Americans accepted that. So right away the Americans went into production of what was then called TDQRCK and that was a multi-channel VHF set. I phoned my friend down in, oh this was when I was DN Comm, "My ...orders were, can we get in on with this 'cause they were going to produce thousands of sets for every bloody ship in the USA and could we get on the early run?" They said, "Yes." So I told Mainguy we wanted this for the ships in the Navy. "How many do you want?" Our force goal in NATO was 42 at that time, so

I just said, "42." He said, "Okay, order them." I sent a chit down to the supply ...; I want 42 of these and I told the guy down in Washington; and low and behold 42 of these sets,

INTERVIEWER: Arrived.

CHARLES: I thought that was.. [indistinct words]. Nobody else knew anything about it.

INTERVIEWER: Did they ever get to build any of that stuff in Canada ???

CHARLES: Now this and I can't...; the answer is yes. Okay, give you a good example and I can be specific about it. This fellow Doug Carroll that I was talking, we were buying special high quality receivers from a company, it was an American company called and the Americans were buying it too, Technical Materiel Corporation, TMC and it was run by two Americans; good Americans, Joe Gebetstralli and Bill Cantioli

INTERVIEWER: Joe Gebetstralli

CHARLES: Gebetstralli I don't know how the hell you spell it. Bill Cantioli; I remember the name. Anyway and they were in Warren, New York. Anyway they were producing these receivers and... Doug Carroll when he retired from the Navy he got agreement with these people to go in to production of this equipment in Canada and he got a place just out by the Ottawa airport there. He had a peculiar collection of people; Sam Worth worked for him and Raymond Dwyer worked for him and somebody else I forget. But anyway and he was producing connectors and receivers and quite a number of items specifically for us. Now I know there were quite a number of other, what you might call, specific production companies, unfortunately I can't be certain anymore, Marconi was in the business all the time, and there was Sperry,

INTERVIEWER: Sperry Marine?

CHARLES: Yes.

INTERVIEWER: Sperry, Canada.

CHARLES: So, so and there was quite a demand for equipment as those Sallies started to come off and we had to fit all this new equipment in the older ships, so that's the story as far as it goes. I'll just go on a bit then I'll stop with the communications, the last thing. I then became Director of Naval Communications in the Naval staff in Ottawa in 1952. At this stage of the game Harry De Wolfe, no Rolo Mainguy was CNS, Harry De Wolfe was DCNS and Nelson Lay was A/CNS A and W - a great driving staff guy, very exasperating but he had his merits. And the Sallies, the fellow who designed it, had gone back across the Atlantic [Roland Baker].

Now all of the people on the staff when we were doing this had been in command of destroyers many of them didn't look it, they were all young, all born in ...all in the same bag. All had what you might call experience driving destroyers. The design of the thing

related to this bloody problem of operating a ship in the North Atlantic. Speed in a ship is directly related to fuel consumption. It's a direct relation, exactly. Speed in a ship particularly westbound is directly related to the weather and the wind blows force five 50% of the time, in the North Atlantic from the southeast, so if you're westbound you got to cap it. So you're what you might call your effective economical speed varies a lot. Anyway all of those figures and now we're getting in to the operational research guys. We had to have them, the Navy used them all the time; a hell of a good bunch of guys. There was old Joe Bitchity and little Petrie and.... I certainly used them all the time and that was what they used them for; for those sorts of calculations. The hull of that ship was designed,

INTERVIEWER: Is this the *ST. LAURENT* we're talking about?

CHARLES: Yeah we're talking about the *ST. LAURENT*. It was before I arrived there. It was designed to do 28 knots in the North Atlantic at any time and get across the Atlantic.

Let me give you an example of this. When I was driving the Sallies out here in 1960 you, it's 2430 miles from here to Hawaii, and if you went from here to Pearl Harbour at economical speed. You got in there pretty low [in fuel(?)]; the Americans used to be horrified at the percentage that we got into the harbour with because they always worried about ships getting too low in fuel but you could do it. We never had any ships before that, other than the cruisers, who could come anywhere near that.

INTERVIEWER: Oh that's something that you don't normally think about is it?

CHARLES: No you don't. Now related to this fuel thing is also the question of having fuel supplies somewhere when you want it. In the old days when you're bound to get caught in the north, God you prayed for a trip into St. John's. When they put that goddamned tanker up in Hvalfiord Iceland it was a terrible place, it was cold as boot, but Christ, the tanker you were delighted to see. On the other side of the coin if you're going back into England and you're getting pretty low on fuel the question is whether you went into Mobile at one stage or whether you had enough to get you to go there and get back.

INTERVIEWER: You were that close yes.

CHARLES: Yes and of course the troops all wanted to go to Gora. And you had the flexibility.

INTERVIEWER: Did they have any rules as to what percentage you should plan to have left when you came in to port?

CHARLES: We never had that but after the experience with the typhoon in the Pacific, they lost, I think six or seven destroyers who had all gone down in fuel and were trying to refuel at sea. Remember the Americans were miles ahead of us and the fleet trained it.

They lost them; they capsized. Now the stability of the Canadian destroyers were basically, certainly the metacentric height was much higher than that.

INTERVIEWER: had good metacentric height.

CHARLES: Yes and certainly you could get in to harbour quite safely with four or five percent remaining.

INTERVIEWER: Now the curvature, these curved shapes of the *ST. LAURENT* very distinctive, beautiful ship really for its time.

CHARLES: Oh yes oh miles ahead of anything else.

INTERVIEWER: How much was that to do with seakeeping as opposed to the nuclear...[missing words]?

CHARLES: Well I'm not sure in practice the nuclear thing had anything to do with it at all. It was the irony was it would run off and you washed it off.

INTERVIEWER: That's right and they had the pre wetting.

CHARLES: But we all had the experience of chipping ice on the foc'sle of a destroyer okay and we all, geez I ran in to a typhoon in *HAIDA* in the Yellow Sea. I can tell you the water piled up on the foc'sle part of the breakwater and I prayed for a rounded deck. It had to do with getting the bloody weight off the foc'sle.

INTERVIEWER: Oh yes. It was a very distinctive design and that design carried on right up until the DDH 280s.

CHARLES: I can't speak about the design of the hull of the 280s. We were certainly in this ASW frigate/GP frigate all during that period when I was DNPO. God, there were more arguments than you can shake a stick at it and I'll try to sum it up for you somewhere along the line as it affected the engineering.

INTERVIEWER: Now the yards for these *ST. LAURENT* and destroyers I mean it must have been really tough to, for industry and the Navy to sort of downsize from I guess the end of the Korean war, well downsizing would have occurred probably a lot earlier but from the end of the Korean war until they started building the, these ships must have been there in part to keep the shipyards alive.

CHARLES: Well I can't....

INTERVIEWER: It seems strategic.

CHARLES: The question whether they were built in Canada certainly was a question.

INTERVIEWER: Good question, built in Canada yes.

CHARLES: As I said the decision to initially build the Sallies, I was not there at that time. When I went there in '52 the hulls were already; the contracts were all let, they were going up. What we did, old Lay, we had a complete mock-up of the bridge superstructure of the Sally at Vickers. Vickers was the lead yard for that.

INTERVIEWER: That's in Montreal.

CHARLES: Yes and Lay got all of us and this included Bob Welland, Bob Timbrell and these experienced guys to sit down to work out exactly and we were pretty confident with the radar at this stage that we could run this ship from the Ops room and not the bridge. We had difficulty convincing old people of that of that peculiar state of affairs, but all those young fellows on the staff at that time were convinced that's the way we should design those ships.

INTERVIEWER: Well that was in the citadel wasn't it? I mean by this time were talking ...

CHARLES: Yes sure. Oh there were all sorts of reasons for doing it, but the main thing was make more effective operation with modern tactical unification and the radar plotting. The radar changed the plotting system a hundred percent, but it took time so technology had changed the whole capability of dealing with information. Standing on an open bridge in the North Atlantic trying to amass all this.. [indistinct words] information just wasn't on.

INTERVIEWER: Yes well that was a tough business for sure.

CHARLES: So the major decision to, and this has affected engineering all along the line, was to set up an operation but we didn't have the sort of weapons officer type of thing in this stage of the game. But as far as plotting and the communications, that was all centralized kind of thing. That was when we decided and the decisions we made and it was in a real short period of time the guy from Vickers was there writing it down on a pad, the decisions we made.

INTERVIEWER: Now was Vickers then basically translated yours and others design, your mock up into industrial...

CHARLES: Well now wait a minute. The best thing we ever did was build that drawing office. We couldn't have built those ships without that drawing office.

INTERVIEWER: This is the take-off... [indistinct words] a certain length of time?

CHARLES: Yes, yes, yes all the drawings for the ships were done there.

INTERVIEWER: And these were all civil servants.



CHARLES: Well, and the answer is there were a lot of civil servants, and I have trouble with this in the engineering side of the coin because all the time, and you get in to this in the hydrofoil, you get all sorts of funny guys suddenly appearing to see you. You don't know where the hell they came from and what the hell they went. So the answer is the drawing office to a large extent I think was manned by civilians. They certainly was run by the Chief of Naval Technical Services I believe. It was a great crime when we did away with it because the next lot when they let the contract with the 280s, one or the other, and they had to; the lead yard was Saint John or something. But anyway they had to get all the people from the States to come up and do the bloody drawings.

INTERVIEWER: Yes, well for these, for these ships you had the central drawing office doing all the drawings and you had Vickers as lead yard building these, was there any, were you aware of any difficulties in marrying the two like getting the shipyard to follow drawings or...?

CHARLES: Well it was quite clear that there was a difference in the quality of the construction, and we always said the west coast yards... and it helped with weather to start with but a west coast ship built was... There used to be competition quite a bit between Yarrows and VMD [Victoria Machinery Depot] here. But in practical terms, and as I say I ended up with seven of them operating all together, there was nothing really of any serious consequence. I'm not sure how the costs worked out but I had... [indistinct words], but I suspect there was quite a variation in the prices paid.

INTERVIEWER: Yes, well I've heard the comment often that west coast started to produce superior ships.

CHARLES: Well that's good, I think so but I think there's justification for that and you start now to get in to labour unions. I have never had to deal with labour unions directly - get that. Nor have I ever led a contract with any company directly; nor have I ever owned shares in any company, that is my disclaimer, but I certainly knew the managers of all these shipyards around here, both socially... and if I had a minister or something I would frequently ask Kubie Wallace and fellow from VMD to dinner at Admiral's house or in the dockyard. So we worked with the yard we thought it was important. So, but the detailed comparison between the yards I am not capable of commenting on that. Now also the timing of the thing, Sallie commissioned in '54 if I remember. She was the first one and I can't quite remember but they came off the line pretty quickly after it, there wasn't much... but there was a bit more separation when we got into the RESTIGOUCHE's I think, I can't quite remember. Anyway I really can't help you very much in that.

INTERVIEWER: I'm told some of the Sallies were built in Yarrows, some in VMD, some in Vickers, three main yards involved or did Yarrows and VMD get involved in subsequent... like the IREs?

CHARLES: I don't think they got involved in the IREs. I think one of the RESTIGOUCHE's was built out here. I'm absolutely sure of that.

INTERVIEWER: The *GATINEAU* yes.

CHARLES: I think so. Now this began to get toward the end of my term and I can't quite remember that. I'm pretty sure that one of the RESTIGOUCHE's and of course we got in to the 3" 70 gun problem with this one, and so I, when they brought all the Sallies out here I think it, this is while I was DNPO and I think that I wrote the... and it came about because of the 3"70. Funny how silly goddamned things change, but certainly by 1960 all the RESTIGOUCHE's were in Halifax.

INTERVIEWER: I actually sailed in *TERRA NOVA*.

CHARLES: Oh for heaven's sake.

INTERVIEWER: My first ship.

CHARLES: Yes, where did you join it?

INTERVIEWER: Well it was in Halifax but I helped to bring it around and left it here so I helped bring it around and then I had to fly back to Halifax because I was there under Max Reid. I don't know if you remember Max?

CHARLES: Yes sure yes. He wasn't one of my CO's. I had Caulder, McKnight, Ian Moore, Chad the best ship captain of the whole bloody lot, he had an alcohol problem but he was my favourite ship captain. Oh, they were all experienced, able guys; they were bloody good captains; one exception Pop Fotherringham. Pop was an airman, literally he'd never been on the bridge of a destroyer. He was CO of *ST. LAURENT* and there was a real learning curve. Now he was enthusiastic and energetic and willing to learn, but he was miles behind his...

INTERVIEWER: Miles behind.

CHARLES: Yes. These other guys were ...

INTERVIEWER: 3'70 gun, I had an experience with that as a young CSE with my first ship as a CSE officer. *SASKATCHEWAN* and it had a 3'70 gun that had just come out of refit and the thing didn't pass any standards whatsoever so I had to actually condemn the gun while we go through the whole process again and the guy breathing over my shoulders was Dougie Boyle,

CHARLES: Oh sure Dougie [laughter].

INTERVIEWER: So this must have been, the 3'70 gun must have been a real beast...  
[indistinct words]

CHARLES: Oh it, I was, I was talking about missiles now.

I'll shift from communications now for that period I went out to Korea. I learned quite a bit in Korea. Government just gave me money and told me to run the ships out there, so there was a very good way of running the ships I can tell you. You got better refits in Japan than you ever got in Canada and for a hell of a lot less money, but that was a peculiar set of circumstances. Anyway then I came back and I ran Royal Roads which is completely remote from all this other stuff that I was doing, the simple problem of trying to get enough cadets.

And then I ended back, I relieved Landymore over in Korea. I relieved Landymore as DNPO, anyway and Bill was a hard fellow to follow. He had very strong views. Anyway then I got into what you might say the problems of the future Navy. Now it had started before I got to be DNPO. At this stage of the game Harry De Wolfe was the Chief of Naval Staff and E.B. Tisdall was Vice Chief and Jeff Brock was A/CNS A and W and the two disagreed didn't talk the same language.

I got along with Harry DeWolfe very well and I got quite frequently get in to see him once or twice a week which a lot of them couldn't say that and I was his planner. Now at this stage of the game of course we were locked in to the NATO set and the whole of the program as to what we were to build and where was it built was tied to those NATO Force Votes. That was the only way you could get money, because remember when I went to Ottawa the government had changed and so, the Minister of Finance was a genial fellow called George Pearkes you know very likeable, but our Prime Minister was Diefenbaker. Then he appointed Howard Greene as the Minister of External Affairs and that was completely and entirely opposite to what External. Greene was off on peacekeeping and that sort of thing. He wasn't interested in NATO at all, not interested in Canada-US relations. So Harry De Wolfe had a terrible problem during that period, [he] was very uncomfortable and complicated for him because the money...

So you've been talking about the personnel. At this stage of the game all the personnel files, and I'm not going to go into the personnel problems, but the Tisdall report said we were going in to the General List and Scruffy O'Brien was told to implement it. He was working with me, I was DN Plans, but they didn't know what the hell the answers were. They didn't know what the numbers were. In the meantime the personnel costs, pay and allowances - it screamed and so from actual money available for the rest of the Navy was decreasing. So if you'll recall and Harry, oh in order to maintain our force goals we got rid of *ONTARIO*, *LABRADOR*. There was a great howl of course about *LABRADOR*. We got rid of the flight expansion and took two of the frigates out. Anyhow we reduced the actual strength of the Navy quite drastically and also what was reduced quite drastically was also the, what you might call the Civil Engineering side of it; building, married quarters. Now engineering people suffered very badly under, particularly the Civil Engineering side of it.

INTERVIEWER: What time period? We're talking 1967?

CHARLES: No '57, five seven, 57 and I was there until 1960. Those are the three years I'm talking about.

INTERVIEWER: Yes and this is the period of time you started... [indistinct words]

CHARLES: Yes, the minute the Conservatives came in they weren't interested in spending money on defence. In many ways, in a funny way Pearkes was a very staunch supporter. It wasn't Pearkes that was the problem. He just didn't have any influence with...[missing word].

INTERVIEWER: But didn't we get the follow on ships? ....ANNAPOLIS

CHARLES: Well okay yes well that was what the NATO force goals the way, it was quite clear we had to build two ships a year. When I arrived, now Bill Landymore had been there when they were working out those figures to maintain our force goals, we had to build two ships a year and in fact those were Bill Landymore's calculations.

INTERVIEWER: Still working on building two ships a year?

CHARLES: Yes that's right. Now also although it has nothing directly to do with the two, but the force goals in NATO, or the objective in NATO, changed. Originally we were... [indistinct words; a bottomless pit(?)]. And then there was reactive, you reacted to what he did, if the guy didn't drop an atom... and that had to do with the readiness of your Force Goals. The force goals were divided and if something was ready now 30 months, no 30 days, 60 days, 180 days and you got them placed in different categories. This had to do with manning. The peculiar anomaly of this was that Mickey Stirling was who at this time was a Commodore, was appointed on the staff of SACLANT and his job was to go around and see whether people were adhering to their force goals. I remember Mickey telling us off saying you not adhering (and right again) to your Force Goals [laughter].

INTERVIEWER: He had to report in...

CHARLES: ... what his future was.

But certainly all of this reduction in the money on land certainly affected all the engineers. It affected the air side. Oh and I'll talk about nuclear submarines in this game too. I went with, and this was I think 1958, '58 I went with Harry DeWolfe down to New London, Connecticut. The Nautilus had been in commission for a little while and there was another nuclear, the Sea Dragon, and it had been built with a different heat transfer system you know and it had run through the Arctic under ice, the Sea Dragon. Anyway we went down to ride in the Sea Dragon and hear what this guy had to say about going under the Arctic ice. Certainly I was impressed with that boat and you know the speed, in fact it was pretty risky. You could crank up the speed, 34 knots I think we were doing and you didn't really know where the hell you were [laughter]. It was a dangerous

operation but it had great potential. I was convinced and Harry was very convinced but then we got into, and we did study after study, and we had the OR people in it and all sorts of us but every time you came back to, not so much the cost of the submarine; would have been about twice the cost of an O Boat or something like that but there was all the interest on it.... First of all, the security problems driving it and secondly training all these people. You know how many new boats and how many guys do you train and when you, again the OR people were a lot of help you see. There are a lot of things attached to nuclear submarines that don't appear on the surface. So, and I forget it was in the '60 or the '58 we put in a... By that time Harry decided that we just couldn't afford it; couldn't, couldn't cope. It ended in his tenure; it never really came up again.

INTERVIEWER: Did he at the same time order Oberons then or was that like the booby prize if you like?

CHARLES: Yes it was, now there was a money deal fixed up in that. It had something to do with cheese.

INTERVIEWER: Produce for submarines. They were built in the UK.

CHARLES: Yes that's right but, but there was this... You'll have to get somebody who was involved in it and, absolutely, somewhere along the line cheese was involved in submarines.

INTERVIEWER: Good Canadian cheddar, yes. This was about the same timeframe was it, like as soon as Harry stopped that nuclear business.

CHARLES: Yes, yes.

INTERVIEWER: He wanted to stay.

CHARLES: At one time we did investigate buying Barbels. They weren't nuclear submarines and we certainly we did some surveys on six Barbels something like that number. You're asking me if I can remember details, I can't... anyway and again there were two full sides of the coin. One was the actual purchase of the submarines, but the infrastructure that's involved in the thing. You're going to a completely new sort of, whole bunch of things and there's training involved with it and as you'll realize the problem in the personnel side of the coin with the General List which came into force in 1960 I think; Tisdall. The personnel side in, quite frankly, chaos all during that period.

INTERVIEWER: Well the submarines you'd have an industrial benefit too, you'd have like the Americans probably wouldn't want to transfer technology into Canadian industries.

CHARLES: Exactly. I'm certain that was one of the ramifications.

INTERVIEWER: I don't know how the Brits would feel about this; probably the same thing.

CHARLES: I don't think you're going to find the Brits buy anything in Canada unless they can exchange something for it because they were in worse shape than we were in some ways.

Oh now well I'll talk about a couple of other things. In this period also was the hydrofoil. Now certainly this was basically a generation to a certain extent by NRC because of the background was Baldwin down at the... [indistinct words], and DRB. They were convinced that they could produce something and build it in Canada and it was also worked on the premise that they could sell it to the United States and the UK, which is rather a typical premise that occurred time and time again.

INTERVIEWER: And it never works.

CHARLES: Never did work. I was highly sceptical of that. Anyway and the money, a lot of the money for the hydrofoil came out of the NRC Vote, I think. I remember working on the estimates. DNPO had to pull all the estimates to get everything and so Harry De Wolfe wasn't terribly enthusiastic and we had the OR people on to it; fuel and speed came up right away. Everybody saying it'll do 60 knots. How long that'll last??? [laughter]. Bob Wilde had the best bloody idea which was his way of approaching it, you know there's a blue ribbon for the merchant ship that goes across the pond the fastest from New York to Amsterdam or Liverpool or no Portsmouth. Okay anyway there's a blue ribbon and Bob; we had OR do this work out how we could, and this was when the hydrofoil was running so it, we were going to challenge for the ribbon of the Atlantic. We required three destroyers to refuel the ship while it was trying and even with refuelling it could win this time and we goddamned near did that [laughter].

INTERVIEWER: There was a huge debate that I became aware of just at the end of the hydrofoil of making; it was about whether we should have a Navy of many small ships or many small, are they...

CHARLES: Well Brock was pondering this thing, the trouble was small were always expensive. I'm just looking up in the book but when he was A/CNS A and W, and this was in '58 I guess he produced this, his Future Strategic Outlook for the Navy. It's not in there but...

INTERVIEWER: Brock, who he was the captain of the *ONTARIO*?

CHARLES: No the Commander who kicked out of... [indistinct words]. Quite... [indistinct words] too I might say.

INTERVIEWER: Not the same Brock.

CHARLES: Oh sure yes, oh wonders happened in our day.

INTERVIEWER: Wonders yes. What killed the hydrofoil in your estimation?

CHARLES: The simple fact was the one saving grace it was saving on personnel, but when you sat down with the OR people what would you use it for?

INTERVIEWER: I remember them talking about using them like helicopters almost going from one hot spot contact to the next, dash, dash and drift.

CHARLES: In the middle of the North Atlantic whose going to fuel the bloody thing and so the fuel thing kept coming up and if you put more fuel in how many weapons were you going to carry, one or two? The minute you start talking about putting five or six torpedoes; there was a reality check here. I rode in the gadget and was fine, old Cotaras was terribly enthusiastic and it was great, but when you really got down to saying how are we going to use this thing within the context of the NATO... [indistinct words], it just didn't fit in. Now in the meantime as you well know the Americans were building the two... [indistinct words]. Boeing was building it out here. It was a hydrofoil but it had a different foil system and I think a different propulsion system. They came to the same conclusion, so the two of them just... The Brits didn't go into the hydrofoil they went and did trials on hovercrafts up off Northern Ireland and that didn't work either, so...

INTERVIEWER: Nothing like good old ships.

CHARLES: Yes, so as DNPO I simply could not find what I might call the Staff Requirement within the commitment... [indistinct words].

INTERVIEWER: Right. Who built the hydrofoil? Who is the..., do you know that? Like was it somebody like Vickers or?

CHARLES: No it was the aircraft plant in Toronto.

INTERVIEWER: A.V. Roe?

CHARLES: Yes, no the other one.

INTERVIEWER: de Havilland?

CHARLES: de Havilland that's right, de Havilland. I'm pretty sure that's right. Anyway that's who built it.

INTERVIEWER: In Toronto?

CHARLES: Yes. Now the hydrofoil was one thing, the hardware we put in to it was all specifically designed in house. The engineering side of it, now this is where you get into trouble with DRB/NRC. A lot of civilians were involved in this. There was a towed sonar involved in....

INTERVIEWER: There was a little towed sonar, yes. [Interviewer note: The AN/UYS 503 involving Westinghouse Canada Corporation; Cdr Joe Cunningham was involved]

CHARLES: Yes. There was literally a whole specific list of equipment that we had to build to fit into that ship and I'm absolutely sure that all of it was built in Canada.

INTERVIEWER: I can't remember whether this was the first instance of it. We had to negotiate with IR&M... [indistinct words].

CHARLES: The notion had been there for quite some time. I have a sneaking hunch that when I was on the Naval staff in '53, I don't know whether it was Welland, but certainly the VDS I'm pretty sure was being talked about there and as you know we did a lot of development of it in Canada.

INTERVIEWER: Oh absolutely.

CHARLES: Yes, so but I can't, I really can't be much help to you on what you might call the "wet" side of the house.

INTERVIEWER: Right, I was a junior officer I was in fact assigned...

## **End of Tape 2, Side A**

## **Tape 2, Side B**

INTERVIEWER: ..... hydrofoil and we just did ... and things like that. And we started to get into the ANNAPOLIS Class ship and the NIPIGON Class ships, the introduction of helicopters and Bear Trap and I think maybe that those are the themes that we would like to try and go into this afternoon. And as, as is the aim of these particular themes anything that you could relate to the industrial base would be, would be really good. Okay?

CHARLES: And of course, I'm duplicating quite a bit on there, so I'll try and avoid that and stick to something more relevant to your problems. There's quite a bit of information in that one okay.

INTERVIEWER: They were a great set of interviews. But they do go to different agencies, so a little bit of overlap and repeat doesn't hurt at all.

CHARLES: Okay well, I will try not to duplicate too much okay. Alright, we start.

INTERVIEWER: We are starting.

CHARLES: Very good. At this stage of the game following our last interview I was, at this time Director Naval Plans and Operations. This was from the period of 1950, end of



'57 to early 1960. You will recall at this stage of the game the Government of Canada had changed and so we had Diefenbaker as the Prime Minister and the Minister of Defence was George Pearkes. Prior to this stage, Harry DeWolfe had established the primary concern with Navy was providing forces to meet the force goals for NATO. The primacy of NATO during, certainly the initial stages, of the Diefenbaker government remained the same. And so it was a question of trying to continue the Navy as a way it had been developed by basically, Harry DeWolfe and he was, of course, still the Chief of Naval Staff, one of my prides there. He was a wonderful fellow to work for, and DNPO was responsible for preparing the estimates of all the various departments. The Vice Chief of the Naval Staff was Tisdall and Brock was A/CNS A and W. Brock was a very enthusiastic fellow and he drove his people pretty hard, but on the cards at this time as far as I remember was first of all a new replacement for the existing ships.

Landymore had worked out quite clearly that if we were to maintain the force goals of 42 ships we had to build two ships a year and this was generally accepted by everybody. The Naval Staff at this stage of the game was therefore, working on the GP Frigate replacements for the future. In the meantime, this led to a great number of, not disagreements, but difference of opinion as to what this ship could look like and contain. Certainly one of the questions was surface to air missiles, you know in other words air defence we were lacking and the question of whether you built it big enough to put in a missile like the Tartar, which the Americans had or what was to be. Also there was considerable discussion about the sonar and I can't go into this in detail because I don't really recall the details of the thing.

In the meantime Harry De Wolfe was saying, "Where's the proposal?" and it became apparent that we weren't going to have anything like the staff requirement or anything, I remember him quite distinctly saying "Well, build six more."

INTERVIEWER: And he was referring to the ANNAPOLIS Class?

CHARLES: We didn't call it the ANNAPOLIS Class. The question of the ships' names arose at this stage of the game.

INTERVIEWER: I meant the ST. LAURENT Class.

CHARLES: Yes. Well, the RESTIGOUCHE okay, but not the 3"70 gun. Anyway, he said "build six more" and the airmen spoke up and said "What about the helicopters?" He said, "Well if there's time we'll put it on in the end, but we do not have an agreed approach to landing helicopters on destroyers." But there was no doubt there was quite a specific direction of "build six" and that they were ordered right away, as far as, and I don't know how the tendering to the yards went. The number six was certainly the question of the yards available to build them. Why there weren't seven I cannot remember, but anyway ...

INTERVIEWER: Was there any thought given to keeping the yards working as opposed to say tendering internationally?

CHARLES: Well, there's no doubt there had been a reduction in money. Pearkes supported this as indeed did the Chairman of the Defence Staff or the Chairman of the Chiefs of Staff, Charlie Pugson [?], in fact, supported this and indeed External did because they were very, at this stage of the game caring about the things to come. They were very much in support of the Navy. So there was no problem in actually getting approval and I do not recall in any of the discussions I was involved with of the shipyard working ... being part. It would be fair to say that General Pearkes was certainly interested in getting some of the work to the west coast. I know **that** [emphasis]. But I can't offer any concrete evidence that pressure was brought on the Navy to do this. It was pressure from Harry DeWolfe to build two ships a year that they did. And exactly how it happened so quickly, I don't know.

INTERVIEWER: I guess that's the advantage of being the Chief of Defence Staff.

CHARLES: Yeah as it happened. So we were now off on the two a year and things are going fine and I can't remember at what stage of the game ... the GP frigates never went out. The engineers were telling us that the Y100 power plant was no longer available. I know there was a distinct problem here ... we could not go on with the steam propulsion system we had.

INTERVIEWER: Yes, that's the *ST. LAURENT* steam propulsion system.

CHARLES: Yes, that's right. I remember that distinctly. So that was a basic thing and just who started cranking the new, you know turbo gas; what'd you call it, propulsion system you call it now.

INTERVIEWER: Yes gas turbines.

CHARLES: Yes that's right. That was beginning to loom. So that's the question of the ships at this stage of the game and indeed we got the money into the estimates for that and some of the other projects. The hydrofoil, I forget when it started and whether I commented on when it started before. It was primarily a defence research... and the staff were interested in the concept and there were quite a number of studies done by the OR people exactly how you would employ this. But remember this was 1957 – 58 and it was really in its concept here. And I think I mentioned it the last time that the Americans were doing the... [indistinct word] carrier, so we all know that story. I can't remember exactly what the stage of the hydrofoil was at this stage of the game, but Brock was interested in it as small and many. I'll come back to this a bit later because it certainly continued to pop up as you know. In the meantime it was basically a research project to test the hull system and the propulsion system as opposed to the weapon. We knew that if it was going to be successful we had to have the weaponry and I believe the weapon people were looking at what do we need, but it was pretty preliminary at this stage.

INTERVIEWER: There was also some interesting Sonars.

CHARLES: Well when I say weaponry I mean also defences; defences - that's for sure. So that's as much as I'll say on the hydrofoil at the moment. Of course it kept on the program for quite some time before it was cancelled.

INTERVIEWER: Until it was cancelled. Yes.

CHARLES: So it was always there.

INTERVIEWER: It was actually cancelled in my day. I remember when it was cancelled.

CHARLES: Yes oh yes, it went on after it was still there when I left because I rode in it. Now at this stage of the game of course the helicopter problem, or it wasn't a problem, I can't quite remember what year they put the platform in *BUCKINGHAM* to do the initial,

INTERVIEWER: *BUCKINGHAM*.

CHARLES: I think it was, the frigate was *BUCKINGHAM*; it was certainly one of the frigates, had a deck built on it to test whether you could do it. They proved they could do it, but they needed assurance in the North Atlantic that you had some system to secure the helicopter when it was out on the deck. This introduced the research into the Bear Trap. Now this was a specific requirement established by the Royal Canadian Navy; some device to hold the helicopter when it hit the deck and who was actually responsible in the engineering side of this thing. Well listen I don't know. The airmen over on the A/CNS A and W shop were sure as hell interested. They were convinced that it would work and their convictions were sincere, but we were not certain about it at all and Harry De Wolfe was quite sceptical about it.

INTERVIEWER: Do you remember who the industry was that worked with the lab to develop it?

CHARLES: No I'm sorry I, I ...

INTERVIEWER: Could it be Fairey Aviation? Does that ring any bells?

CHARLES: I suspect so but I can't be sure of that. There was that aviation company in Toronto who was doing that.

INTERVIEWER: De Havilland company, yes.

CHARLES: I think it was Fairey, but I can't be certain about that.

INTERVIEWER: Neither can I but I have that recollection.

CHARLES: Anyway this was the key to the helicopter thing. We had all sorts of discussions as I think I said about the size of the helicopter. Now at the same time there

were the three sonar things in the middle. One was the VDS for the ST. LAURENTs. The other was a VDS basically for the hydrofoil.

INTERVIEWER: A small, a small body yes.

CHARLES: The third one was a sonar system for what do you use in the helicopter to be effective?

INTERVIEWER: Yes, a dipping sonar.

CHARLES: Yes, all well and good to have the sonar and an operator in the helicopter, but how the hell do you get that information to where you could use it.

INTERVIEWER: Yes. Do you know did we have any ideas of a source for dipping sonars?

CHARLES: The Americans did start with the dunking sonar, but they related it to a carrier, and the mechanics for handling the aircraft in a carrier was there; in existence. Whereas, we didn't have that in existence in what we were proposing to do. So there was a different problem and again unless the Naval Air history doesn't really explain how they went about dealing with this problem. I was certainly conscious of it. Somebody I knew was dealing with it and all through this helicopter thing we did have an operational research dealing with the problem and if they've got any record you may be able to find specific tasks like that for them.

INTERVIEWER: Was the operational research people run out of the Warfare School in Halifax; do you remember?

CHARLES: Well no all of the Ops Research people were part of DRB. They had an office in the old Armoury building there in Cartier Square [Ottawa]. I forget the name of it. They were very good fellows, they were DND employees but they certainly weren't under the Chief of Naval Staff. They were very good when we requested them but if there was a question we had to explain to them what it was we wanted. On the other hand on quite a number of occasions I think they injected the question into it you know part of DRB. Zimmerman I think it was David Zimmerman (he was an ex-cadet). I think injecting, he said, "Well we'll have the operational research people have a look at that problem." You know that sort of injection. He sat on the Naval Board.

INTERVIEWER: At the working level, at the naval officer level, was there any opposition or resistance to the ideas of operational research.

CHARLES: [laughter] The answer is no. All of the people in the Naval Staff I'm sure were in favour. Let me, let me qualify this one. Our first experience with operational research for all of us was zigzag diagrams, okay. Let me tell you on a wet windy bridge on a dark night everybody batted down in front of a goddamned big convoy and we weren't zigging the same as the ships. They had their own zigzag here. We were weaving

back and forth but try to figure out which zig or which zag? The merchant ships were all, we were really cursing the operational research people [chuckling] who had invented zigzag so from that point of view the practical point of view of dealing with zigzags in an open bridge in a cool night in the Atlantic was rather at least a reminder that we better be practical.

INTERVIEWER: Better be practical.

CHARLES: Yes. So that, that was fair, fair enough for sure but I think the basic principal the way the study claims and not only that we found of course was very useful for the Treasury Board and indeed the DM staff.

INTERVIEWER: You could get a certain amount of objectivity if you had to.

CHARLES: Yeas that's right and it was being done by somebody who were civilians. I don't think were any military people in that group at all.

INTERVIEWER: So there was also arm's length distance and objectivity at arm's length.

CHARLES: I think they were great and they did a very, very good job. There were a relatively small number of them.

INTERVIEWER: Were they involved in any of the trade-offs for the helicopter that was finally chosen? I remember stories there was an army helicopter and potentially the.....

CHARLES: Well the Kaman. The reason the Kaman was selected was it was small and light and I think relatively cheap, but when we got to the question of, "What are you going to use these helicopters for?" First of all you've got to have a sonar section; you can't just have an operator. Then the next question was, "Did you have a weapon?" and the minute you put one weapon in how many more do you want? It's the same story, "How much ammunition do you put?" Or the helicopter, what do you think? The minute the OR people were working out how many and you know how long the helicopter could stay in the air by the fuel carried you know is the limiting factor. So they put all of those factors in to it and came out with a figure that said there's no point buying the Kaman because it would take on and off the deck alright, but whether it would do anything is quite another question. So now the question of exactly which helicopter we decided on at this stage of the game I cannot recall what, was the process. As you know we had the HOS...what was the one we had in the Carrier [*BONAVENTURE*]? That was the one they did the trials in.

INTERVIEWER: Yes my mind goes blank, but I remember. They called it the Horse.

CHARLES: Yes that's right. Well we didn't go for that one.

INTERVIEWER: It was a Sikorsky wasn't it?

CHARLES: Yes that's right.

INTERVIEWER: The Sikorsky Sea Horse.

CHARLES: Yes. Anyway that was not the one so I'm sorry I cannot remember exactly how the decision was made as to what we were going to purchase and that again was held on, and I can't remember when. We then put that Bear Trap thing in whichever ship it was.

INTERVIEWER: Was that the first one from Bear Trap?

CHARLES: I think so we didn't modify the Sallies [ST. LAURENT Class] until after the *NIPIGON* was on. I think it was *NIPIGON* now. Anyway we weren't going to make a final purchase of helicopters until we had tried them and so you can tie that to the date of *NIPIGON* I'm pretty sure it was *NIPIGON*, did the actual trials of the helicopters with the Bear Trap and I'm sure there's a lot of records about that time. Now who were the engineers involved in this because it was certainly an engineering problem...? It was ours, nobody else had done it.

INTERVIEWER: Well I remember like even in my time which would have been well after the Bear Trap was introduced but there was a lot of pride. It was a Canadian innovation it was American/Canadian industry.

CHARLES: The Americans were very impressed with it.

INTERVIEWER: They were impressed with it? Did they ever actually buy any?

CHARLES: Well, I think I mentioned this question. They started off with drone helicopters, which were primarily designed to carry a weapon; they would be controlled. They went for long range sonars and as you approach with the sonar thing you'll find that they were gradually building better and longer range sonars in their destroyers. In fact they were well ahead of Canada. The question was: Is any ship with an aircraft on it to be piloted by a pilot? That was just impossible manning all the destroyers. Now I don't know if that's just a brown shoe versus black shoe is the expression they had. I don't know the answer to that.

INTERVIEWER: But it certainly was one of the causes.

CHARLES: I think also they had decided by this time to go to heli-carriers. You remember they suddenly started building aircraft carriers that carry helicopters because they were interchangeable with the Marines. You could have an ASW helicopter that could carry Marines. The Marines were under the US Navy. So I believe that's a fair assessment of the basis on which their decision was made.

INTERVIEWER: Did that affect the way that we operated the *BONAVENTURE* eventually? I think we sort of started moving that way too didn't we or was that more a cost problem getting rid of the jets like the Banshees?

CHARLES: This question of the heli-carriers certainly came up in the Brock era of the future, but I don't think Scruff or any of them really got into the business of thinking of *BONAVENTURE* as a Heli... I can't really remember that occurred. As you know we were going through the question first of all shifting from British aircraft to American aircraft about this time we shifted it and then we had the Banshees jet. You know 25% of the budget was going in to Naval Air, I'm not sure if it was under control of DNPO. Harry DeWolfe said, "You know I can get six more destroyers for that."

INTERVIEWER: And at this time the Canadian Navy was also ASW dedicated.

CHARLES: Oh yes, under direction.

INTERVIEWER: Under direction.

CHARLES: Well in the sense that the government supported NATO. Pearson from the start of NATO was determined to be involved in it and one way we could contribute in a measurable national nature was through the NATO Naval thing. Otherwise we were just another brigade over in Europe. We owned that hunk of the Western Atlantic. We had our piece of the pie.

INTERVIEWER: Yes and it was a struggle to maintain it autonomously wasn't it?

CHARLES: So. Yes it was, yes it was and we had the support of the government all through this even well until Howard Greene came in. He was only there a short period and I don't think External Affairs paid much attention to him anyway to be quite honest although there were... [indistinct word].

So the answer is NATO was the deciding factor for force goals. The other thing to talk about and this issue spread over the whole period of course; this was based on the NATO strategic evaluation. While I was away I think in 1962 the Cuban Missile Crisis occurred and also the Russians put somebody in space or something, Yuri Gagarin. The whole question of bombers bombing North America suddenly became missiles. The content changed and this meant that what sort of war you are going to fight in Europe. The only thing that was constant in all this change was SACLANT who kept saying if you are going to fight a war in Europe you're going to have to supply it. He was quite right. A lot of people didn't think it that way but the NATO force goals were based on that premise of calling up ships to take part in the re supply.

INTERVIEWER: Re-supply good.

CHARLES: Yes.

INTERVIEWER: The reason I started asking this question is I'm interested in how the *BONAVENTURE* perhaps became increasingly at odds with our Naval direction until finally it was decided to not have it. Is that a fair statement?

CHARLES: In the long run Harry De Wolfe decided after the refit. This was after I was DNPO. I forget whether I was involved in getting the refit for *BONAVENTURE*, I can't remember, but certainly the after effect of the refit and the shemozzle that occurred later on in my day so I'll come back to it.

INTERVIEWER: Okay yes, maybe I'm...

CHARLES: Yes you're a bit more in the future.

INTERVIEWER: I'm running ahead with this.

CHARLES: At this stage *BONAVENTURE* was running as a basically as an ASW carrier, but it was the only air defence system we had. The plight of the aircraft was a challenge to keep fighters in the carrier because if you didn't have fighters you couldn't defend yourself against anything. So there was a tough and palatable reason for the fighters. That's as I recall it, but you may find a lot of bunches of opinions.

INTERVIEWER: Well that makes sense, but when you say that the *BONAVENTURE* was being used in an anti-submarine role I can understand the air defence aspect of the jets but what would it be using to actually find submarines to participate in anti-submarine ...

CHARLES: I forget when we went to the trackers but we certainly found... We didn't ever carry bombers you know in the concept of bombing somebody else. In *BONAVENTURE* we were always carrying trackers and before that there was the *Swordfish*, okay. They could carry torpedoes. But the sonobuoy; remember the sonobuoys were now very much...

INTERVIEWER: and MAD.

CHARLES: Yes MAD, so the technology had introduced an ASW capability into aircraft.

Oh one of the... **radars** [emphasis]. Now I'll mention this because I don't know the answer. When I went to Korea in *HAIDA* I had a Sperry radar. This was a high definition, designed primarily for I believe we purchased it primarily because it was good at picking up periscopes. This occurred before I became DNPO and I have no recollection of how it got into *HAIDA*. I had it in Korea for a short period. It was a wonderful gadget and indeed we had it in the *Sallies* and you couldn't do what we were doing: night AS actions running the whole thing from the plot without that high definition radar. The Americans were frightened. They didn't have it. They were frightened to come even near us in the night action stuff. So that was unique. Now, was it Sperry Rand, I do not who... I don't



know how this thing came into the Navy. It was terribly important to the Sallies, no question. It was a very useful gadget and it was distinctive in the sense that if you had in the destroyers. So I'll just mention that. How you find out, how it came into... I think it was fitted in *HAIDA* in 1952. It's in that sort of time frame. I did not have it in *CRESCENT* I know that.

INTERVIEWER: I know the Sperry high definition radar. Subsequent versions of it featured largely in *ST. LAURENT* and all the subsequent classes of ships.

CHARLES: That's right it was essential to do what we did with that high definition radar.

INTERVIEWER: Yes and at some point they would have added the SPS-12 which is the long range search radar in the... [indistinct words].

CHARLES: Now that came quite a bit later. We had the British 285 I think in *HAIDA*, which was the gunnery one and you know controlled the director. Anyway I can't be much help about the future radar sets because I never had them. I certainly didn't have them in Sallie when I was captain and so I was not directly interested in radar sets. So I can't be of much help. Other than I mentioned this particular one because it was really, I think it was Sperry Rand that made it.

INTERVIEWER: Sperry Corporation is an American, American radar was very well thought of.

CHARLES: I think it was produced in Canada. Sperry had a, certainly an office, it was plenty good at the time. I just mentioned it, but you'll have to find out how it came into the Navy. It's probably the navigators I don't know. Somebody like Bob Warren could probably give you the answer.

Okay now what have you got. Now this was basically the period when Diefenbaker was there. At this stage we got *PROVIDER* and they were working on the GP frigate. The carrier *BONAVENTURE* was here by now so everything was operating quite well. Now let's be honest, the shore stations were suffering I think you'll find, now I didn't have anything directly to do with personnel but I think the question of housing and living facilities, certainly in Halifax it was a tremendous problem. I remember this arising time and time again. There really wasn't the same respect... [indistinct words] that all the people in personnel. [indistinct word] was NP [CNP?] at the time. Scruffy was working there in personnel. Landymore was Director of Naval Training. Anyway there were real problems with shore facilities. The old wardroom mess out here in *NADEN* was falling apart and, and the Chiefs and POs mess and the men's mess were in the old building in the red brick buildings in *NADEN*.

INTERVIEWER: So I guess all of the contracted dollars were being focused on the operational aspect.

CHARLES: That's right and so, I'm not sure, I guess it was while... I didn't have anything to do with it but while I was Commodore of the barracks we started and built those new messes out here. And there was a lot of money spent in Halifax. So that was the Civil Engineering side of the house which, other than witnessing the problems which were there....

INTERVIEWER: Yes. Can you tie dates to these, to this general trend? Are we in the sixties, mid sixties?

CHARLES: Well let's put it the other way. Tisdall came out with his report and the idea was to save the people so he could put more money ... the pay scales were.... The money for personnel was increasing very quickly and the government was more prepared to give money for personnel than for ships. So this certainly was the problem with the personnel ashore. It was certainly there when I was DNPO. All of the Chiefs of Personnel I think after he made his report were fussing about the problems. So this came to the head, in fact I think it was... [indistinct date] the collapse during Rayner's time. It started anyway in the previous... Lund started all that. Oh no not Lund. Oh yeah this is Lund's study [Note: Wilf Lund's interview transcript of Charles] as opposed to your interview, but he got all the personnel matters.

So the answer this was coming to a head in that period, certainly when I became Commodore of the Barracks. It was nowhere near as bad out here as it was on the east coast and the engineering people were the worst off cause they were doing the most sea time.

INTERVIEWER: Yes, oh even more than the ship drivers?

CHARLES: Yeah, yes oh yes. Indeed in some cases you couldn't send the ship to sea, certainly on the east coast because you didn't have the necessary people in the engine room. Also there were shortages of electrical people so these were on the..., and this is before the General List thing. There were a lot of problems with ...

INTERVIEWER: So this would be about 1962, '63?

CHARLES: No before that.

INTERVIEWER: Before that.

CHARLES: Yes, oh yes. It got worse it didn't get any better. Certainly by '62 when I was Commodore of the Barracks here, the problems with sea ..., particularly. No even then there were a lot of problems here, and the problems were different. Now when did they start the General List 1968, I had a General List also with me in, in *ASSINIBOINE*. So the Tisdall Report was written when Tisdall was DCNS which is somewhere about fifty, no it was sixty, sixty one, somewhere about that because after his report came out after I'd left office. That complicated the issue to no end.

I don't remember if I told you about the communications community...oh Sam Worth. When the electrical branch committee..., he put the signaller and the tels together and we had a thing called a communicator. The idea was that the guy could do both jobs and in one sense it was the basic signaling, but they did the codes and ciphers and all that was common. But really it wasn't divorced from what happened signalmen ...[missing dialogue] were two separate problems [laughter]. We had that, he brought it in somewhere, I'm going back but I'm mentioning this General List thing cause this is where this problem started to arise. He brought that in in 1948 I think and the minute Sam left, Stirling... [indistinct] with the idea and Thomas[?], he and I unravelled it very quickly because it didn't work. In my opinion the General List the way Tisdall had set it out didn't work either and I said so at the time.

INTERVIEWER: It was the same sort of an idea.

CHARLES: Same sort of problem yeah, same people you know and same money. I'm not really the right one other than this was a constant problem appearing in the Naval Staff, Naval Board or what the hell you do about the people and all of the complaints coming from the coast were mostly about that.

INTERVIEWER: About people.

CHARLES: Yes and indeed before the General List came in, there were a number of problems in the engineering... the engineers. The stokers and the engine room mechanics were certainly spending a long time at sea; much more so than the General List people. To a certain degree because in the sea shore ratio problem, you could employ the upper deck sailors for things like shore patrol and there were areas that were much more difficult for the sea shore ratios. The system tended to favour the upper deck people if you analyse.

INTERVIEWER: Right. There must have been in this period of time a considerable stress due to variations in technology. For example, I don't know if this is the best example, but I remember reading Admiral Christie's accounts of the electrical systems in *BONAVENTURE* for example half DC from Britain and the other half was AC from the United States, must have been all sorts of... [indistinct].

CHARLES: Well I told you that we had that problem in the destroyers too. The minute we had the Tribal Class destroyers we had some British destroyers operating with the Americans on the west coast, sort of, or in Korea. Certainly the Sallies were all deliberately designed and certainly the equipment that was fitted; the refit of *CRESCENT* was a good example of taking the old RN fleet destroyers and remodelling them. They were going to do them all but they only did *CRESCENT*. They were all modified to the North American standards. So a) the problems were there as long as... and we had it with the aircraft. So as long as we had British ships we had that problem and the minute you send them abroad in the Pacific you had a major problem because the only way you get spare bits is fly them there in an airplane.

INTERVIEWER: Did you have any help from emerging Canadian industries to try and solve some of these problems?

CHARLES: Well the first thing, the Americans had technical knowledge and I'm talking about the electronics industry. As we got into the North American thing the first thing you do is find out what the hell the US had encumbered us with. Otherwise Canadian industry couldn't provide what we needed. This began to become apparent certainly in the Pacific. If you go into San Diego or even during Korea, you went to an American base they had everything you wanted and they would give it to you. You had to identify what it was you wanted and we didn't have the numbers that were in their filing system. So this was a handicap for any and I'm not talking about the basics here, I'm talking about the small parts for repair.

INTERVIEWER: Small parts.

CHARLES: Yes.

INTERVIEWER: Undoubtedly this led to the famous Kalamazoo like...

CHARLES: Like, "What is it you want?" I was telling you TMC grew up in Ottawa for exactly that reason. They were an American company, but they were supplying things for us.

INTERVIEWER: So is it fair to say that during this general period of time we had good Canadian shipyards cause they had you know a good shipbuilding program, two ships a year *ST. LAURENT*, the *RESTIGOUCHE*'s leading in to *ANNAPOLIS* and *NIPIGON* but the electronic side the weapons and the sensor side was pretty much lacking in Canadian industry and you had to rely on... [indistinct].

CHARLES: Yes, but a lot of the, I'm sure, shipyards really put the electronics in the ship. They put the power system in. Sometimes you know when you're in harbour you have to steam to get power. Well there you are. We never resolved that problem, the diesel generator. And so but I don't, I can't in every case I think you'll find the electrical people, the electronics [indistinct; ..things]. The actual fitting in most cases was done by naval people not by the shipyard. Now this is how the drawing office, with the Sallies I don't know how the drawing office played in to it but it sure as hell played in to it a part of it.

INTERVIEWER: I'm sure it would yes. Essential drawing office.

CHARLES: So I suspect that the shipyard were only complying with direction as far as putting electronic equipment,

INTERVIEWER: Just fitting it to specifications yes.

CHARLES: I'm pretty sure. We gave them the... [indistinct; common]. We designed the radio rooms and the equipment that went in there. We want this equipment going here. As I told you we went around and marked boxes where we wanted and I think we did the same for the SOSUS system.

INTERVIEWER: SOSUS system, yes that would have been coming up as well during this period of time.

CHARLES: Talking about the shortage of people and that's what we're talking here, there was a shortage of electricians or radio mechanics to maintain as the amount of equipment increased. The number of radio mechs you needed increased. And it was constantly changing and so then you got into this training problem and certainly that occurred when you went under the General List you see. I'll just go into that from your engineering point of view. Tisdall brought the thing out which recommended General List. The U.S. Navy has a General List system.

They go, or they used to, they went to Annapolis and when he finished there he, he could be a supply officer, he could be an engineer officer, he could be anything. But he did indeed have a university degree course so was basically an... science. When they got into the specifics they had what was called engineering duty only officers [EDO] brought in, hired specifically to deal with electronics or, and were not general Naval officers at all. That was basically what we did with radar officers during the war. In fact every cruiser in the Mediterranean had a Canadian radar officer and all he was there was, to look after it and make sure.; he didn't operate it he maintained it. And so he was you might call an EDO. So to some degree this influenced Tisdall, was you couldn't say it ... Anyway in order to do it and I was in Sally when we first began training engineers at sea to get a watchkeeping ticket. That's basically, what was the aim of the game.

INTERVIEWER: I actually got one of those.

CHARLES: Yes well quite a number of people did, but we didn't have the capability to train them all. We were having trouble finding enough billets to train some lieutenants to get watchkeeping tickets let alone subbies. So whether it failed because of this training thing, it certainly failed because of the training conditions, no question and therefore it never really got what you might call a proper try. That's my personal opinion, but it did affect the career of quite a number of...; you're a good example of people who went in tried to be both and had problems coping with it.

INTERVIEWER: Eventually we had to choose, we had to choose.

CHARLES: Yes and oh yes incidentally in the rank structure there were not enough seagoing billets for everybody that qualified.

**End of Tape 2, Side B**

**Tape 3, Side A**

INTERVIEWER: We're talking about personnel shortages and difficulties in the Navy in the early sixties.

CHARLES: I want to go into more things that affected the engineering. Look at that coffee cup in front of you there.

INTERVIEWER: Yes, DEW Line cleanup.

CHARLES: My daughter, who was in External Affairs, she had a break in between some department somewhere else, and she was authorized, joined with the Americans in cleanup of the DEW Line. Now we're talking about 1967, you'll remember this thing because Canada, and there was a great controversy about it remember, had joined NORAD and we had got into the North American Air Defence in a big way, no question, money wise and everything else and so during this period when I was DNPO the Air Force was off on the business of building a) the DEW Line stations all along the North which indeed were basically paid for by the Americans. We were building what we called the Mid Canada Line stations and the whole caboodle was controlled by this place down under the mountains in Colorado Springs. They also involved quite a large number of people at a very comprehensive communications system in areas where there weren't any communications so we all in one way or another got tied into it. I wasn't a communicator at this stage of the game, but the questions of when we were preparing the estimates for the amount of money they needed. There was a question of what stations could the..., all those DEW Line Stations we could supply by sea and how you could help. So, and to what degree our engineers in the Navy, I think the civil engineers and the supply people were working, because everybody was involved in what was a major what you'd say land, it was all land, exercise during this time frame and was eating up large amounts of the money out of the defence budget which was affecting everybody else... [indistinct words]. So off we went with NORAD and DEW Line until of course the Russians put their missiles in and by 1963 or 4 to give you the sequence of events by this stage of the game of course there were missiles, missile defence so they then built the DEW Line stations far up in Alaska... [indistinct words]. After all of the effort to make those DEW Line stations they were just piled with empty barrels... [laughter, missing dialogue]. God bless them the Americans helped clean up the mess so anyway whether our engineers were issued it boom or bust, but the DEW Line is a good example. It certainly did help the development of the North in the sense that they provided air strips in places that there never were any air strips before and in places it provided power supply.

To give you an example, you were in Churchill.

INTERVIEWER: I was.

CHARLES: Yes and you remember that you were listening on receivers, but somewhere along the line there was a transmitting station. Did you know where it was? It was down the railway line on the ground actually about ten miles out from Churchill. This was run

by the Navy this was, and maintained the whole transmitting station for twenty four hours a day in Churchill. Twenty four hours a day was not exactly an easy task.

We had a major problem cause the windows in this building and it was insulated and it was heated and it was all automatic. We did not have a furnace, but the windows on the lee side kept getting broken we couldn't determine who the hell could get down to there anyway, but it was the antlers of caribou. The caribou would get in the lee side and the bloody antlers would break the windows so the maintainers had a problem with caribou. Now that's absolutely true. You'll find similar sort of situations all across the North akin to this one. New problems were encountered, not to mention over snow vehicles and I think the married quarters. The main thing with the married quarters were when we melted the muskeg they started to sink to the ground... [indistinct words].

INTERVIEWER: Well you had muskeg problems.

CHARLES: Yes that's right so this introduces certainly our people were involved in a whole bunch of these problems. Alert up at the top of the Ellesmere Island was one of the most difficult places to support you can think of. You could only get anything in there by aircraft.

INTERVIEWER: Yes I remember flying in there on a trip.

CHARLES: Yes oh yes, those runways were pretty short.

INTERVIEWER: Pretty short aren't they. You speak about the change to worrying about missiles.

CHARLES: Yes.

INTERVIEWER: I have a vague recollection in Churchill although I wasn't in a position to really know anything. They had the rocketry range up there.

CHARLES: Yes that's right. Yes.

INTERVIEWER: They were going to put Bomarc missiles up there at one time.

CHARLES: Well that's right, this is back in the days of, well this is during Pearson's thing, when they agreed to the Bomarc and the possibility about whether to have nuclear warheads or not.

INTERVIEWER: Yes that was quite a controversy.

CHARLES: Oh sure and indeed you could argue that the Pearson government failed because of that argument. Though in the Navy it didn't affect us directly but indirectly cause we got a new government that was opposed to the problem. Oh yes now wait a minute let me get that straight Diefenbaker, the Liberals said they were going to have the

Bomarc. The Conservatives came in and said they weren't going to have nuclear weapons, and then the Liberal government came back in again and said it would have the Bomarc. We had several Bomarc. That's the sort of thing that occurred and in many cases there were a large number of people spent a lot of time and money catering for that on again off again exercise.

Now again as I said we did have a missile business and the countries in Europe said hey we're not going to have a nuclear war fought on our grounds no matter what the hell you and the French were... and so the military concept changed; graduated response and that sort of ...

INTERVIEWER: ...questioned the timing?

CHARLES: Yes and so the timing of the readiness of the operation at this stage of the game before Trudeau took the people out. The schedule of taking people over to Norway and taking all their tanks; we were doing trials involving tanks over there. So the NATO concept changed and it could be agreed to by Canada as NATO in a big way boy that could affect the hell out what we'd been ....

To give you an example when they set up the boundaries for NATO the Tropic of Cancer was the southern boundary in the North Atlantic. The Americans said you can't draw a bloody line in the ocean and everybody on this side of the Atlantic... [indistinct words], but Canada was part of that. Oh External Affairs weren't going to have the boundary of NATO go further south. I'm not quite sure what happened in all... certainly that wasn't in the schedule and Afghanistan certainly wasn't in it so...

INTERVIEWER: Well those are recent changes.

CHARLES: Well I know but never the less our policy at that time was not to accept NATO outside of what you might call the European continent and they were firm about that. I'm not saying you can't draw the line in the ocean, so some of that has changed drastically.

INTERVIEWER: It has, yes well NATO is fighting for its ....

CHARLES: And I suspect it will continue to change in the future. So you can find all sorts of examples of where changes in NATO military strategy agreed to all by the people if affected. It can still run down to all the sort of engineering sort of projects... [indistinct words] now.

INTERVIEWER: Yes. Okay can I take you back to the pre RESTIGOUCHE Class and like we had GATINEAU, TERA NOVA and RESTIGOUCHE and then we decided to improve them with adding ASROC to it, adding a number of other things. Were you involved with any of those or was that after your time? Was that like in the 70's?



CHARLES: I had, I left Ottawa in 1960, summer of 1960 so we certainly were not involved with the improved RESTIGOUCHE's. That thing came when we were fussing about the 3"70 gun. So the answer to the question, I came back to Ottawa and I'll comment on that if you want to in the spring of 1969 or late... [indistinct date] and my recollection is that all of the improved RESTIGOUCHE problems had been settled by that time as far as the staff went. Whether it had been settled in the field I don't know.

INTERVIEWER: So it all happened while you were on holidays.

CHARLES: Yes that's right well I was out here on the west coast as you know so rather out of touch with what the hell happened and quite happily so I might add.

INTERVIEWER: Quite happily so yes. So looking at the period that after you got back to Ottawa, what were your main concerns at that point?

CHARLES: Well I'll tell you how the situation had changed drastically. I got, I can't remember exactly, it was either, it was earlier, I believe it was '65 again and you'll recall the government..., the government always changes just before I go back to Ottawa. Pearson had come into power and the Minister of Defence was by the name of Hellyer. He came in '64. Anyway we certainly were mixed up in, eventually, the paper. I forget what it was called Defence or something.

INTERVIEWER: Well I can look that up separately. I think I know which paper.

CHARLES: There were two, the third one in this period. There were two.

INTERVIEWER: The white paper on defence was 26 March 1964.

CHARLES: That's right, that was this thing I was suddenly faced with and so were a lot of other people. And nobody could really make head nor tail of it, but anyway I arrived back and I initially had noted I'm sure that I was initially appointed A/CNS Air and Warfare. I was a member of the Naval Board for about one month and Herbie Rayner was CNS at this time and was Chairman of the Board. That's what I went back to. The Conservative government had approved six DDHs. It had actually been approved by the government, and Herbie Rayner was CNS. I thought he diddled around, he was trying to clear up details like books. If the contract had been let it might have changed the ball game, but it wasn't. And the delay was within the Navy at this stage of the game and it goes month to month. Anyway as A/CNS A and W, I lasted one month and so then the Board was dismantled.

INTERVIEWER: This is the repeat NIPIGON Class is it, the six DDHs?

CHARLES: No the proposal which was made...

INTERVIEWER: GP frigate?

CHARLES: I think it was... [indistinct words] by the Naval Board got approval from the government which was six GP frigates.

INTERVIEWER: GP frigates right.

CHARLES: These had missiles. These were quite big ships. The thing that might have been talked about way back as a replacement for the ANNAPOLIS..., the new ship. This was what they had got approved. So that's what was cancelled by Hellyer and then he introduced, I can't imagine why he picked four ships. But once he introduced it, went ahead quite quickly. These were the four 280s. Another ...that .....when I arrived the Pearson government and Hellyer had cancelled the GP frigates, and they had agreed to four DDHs and I'm pretty sure the 280s they were quite different than the GP frigates. It went ahead quite quickly.

INTERVIEWER: Would it be fair to say that, this comes from my recollection now, what Hellyer approved basically was four more NIPIGON-like ships, 2600 ton class vessels that "CANAVMODed" their way into a 5000 ton ship which is the DDH 280?

CHARLES: Well the damn thing was being modified all along the line so the guys never knew exactly what ...

INTERVIEWER: Yes, that's what I'm getting to. Yes that's what I'm getting to with the Navy asking for...

CHARLES: But I don't ever remember right now to be quite honest I don't ever remember them being called replacement ships. First of all ...

INTERVIEWER: It might have been just jargon.

CHARLES: Well it may have been but as I told you the power plant was not available; the Y100.

INTERVIEWER: The Y100 yes.

CHARLES: And so as far as I remember right from the beginning they were to be gas turbine ships.

INTERVIEWER: Okay right from, right from the start.

CHARLES: That's my recollection. Now the people on the floor might have had a different view at that time. But when I went back in, I know we went ahead with doing all the staffing to get those four ships underway and it went quite quickly. Remember when O'Brien went to Hellyer the following year the one thing he insisted on, which Hellyer agreed, is the Naval program would not be changed.

INTERVIEWER: I think Lund makes reference to that where O'Brien secured about four principles.

CHARLES: Yes, I told him exactly what happened there were the three of us, Hennessey, myself and O'Brien and we decided on what terms was O'Brien going to accept the Minister's request. Those; there were five actually. He wrote down and O'Brien got them approved by the Minister and they were sent out as a general message. O'Brien insisted on that so everybody knew under what terms they went into the thing. Now they, ok, countermanded them all along the line well I don't which took them on to it. But no, there was a specific agreement to keep the defence program and that was one of the items in those five items.

So anyway that's what I got into, was the Naval Board being cancelled and then they set up the integrated headquarters in Ottawa. I became Director General Force Development under General Allard who was Chief of Operational Department. Suddenly I was in, mixed up in soldiers and airmen, but funny enough the most important thing to us and this was certainly true at the time, was the replacement for the ARGUS. Remember this the next step became operational control of Maritime Air directly by the Maritime Commander. So although later when Scruffy came down there, but we all agreed. So I got in a peculiar position as a Naval Officer asking for aircraft for the Air Force and within the Air Force there was of course a complication between fighter people, the transport people and the maritime people. So you think we had our problems, they had them too. So I was suddenly introduced to this problem.

I had on my staff very good fellows, the Army and the Air Force and we tried to make it work. I have to admit that Allard sometimes made that difficult to do, but we did enough together to do... We weren't in the stage of preparing the estimates, but we were in the stage of trying to provide for the Comptroller and the Treasury Board a statement of our priority of expenditures/requirements. A large title, Chief of Operations Requirements; so I was in that job about a year, yes about a year.

I became a member of the NNAG, NATO Naval Advisory Group, which was set up to try and do what we'd been doing with the Americans with some standardization of support, ammunition, oil that sort of stuff in the European NATO countries. They weren't very successful. Although there's some things they did, ammunition, some things were successful.

Well I must tell you an advisory story, a quick second. Anyway on this advisory group of course the French they'd pulled their forces out of NATO but they were still there and as you know De Gaulle had established the Force de Frappe. He was having his own finger on his own nuclear trigger. But anyway on the NNAG group the French fellow, he was an Admiral called Yves. Then we had the Dutch and the Belgians and the Germans by then and the Norwegians and the Spaniards and the Portuguese. The conversation - French was the second language, you can speak any language you like but there was French. The American who was there before, he spoke French quite well. I forget what his name was, I'd known him from a... [indistinct word]. Anyway my old friend Hal

Bowen who was called... [indistinct words]. I knew him well, he arrived as the American representative on this group and it was a typical sort of NATO thing you having a... [indistinct words] and of course Yves always said his piece in French and I think Hal was the only one who really didn't understand French at all, had none of it quite honestly; he understood Spanish. So that was... Anyways there was no instant translation you know what I'm saying so it was a question of having what Yves said translated into English and then what Hal had said translated back into French. Hal was complaining to me it stands in the way of him employing all his 95 guys. I said well Hal come on and have a drink with me tonight you know I'm staying at... [indistinct word] in Paris and without telling Hal I asked Yves who lived quite close. Yves was there first and we were having a drink and in came Hal and Yves said, "Good evening Admiral". First time that Hal [missing word] that Yves spoke English better than he did. Well that's the sort of silly bloody problems that goes with these NATO things sometimes they were useful and sometimes they were just sheer exasperating.

INTERVIEWER: I remember an experience once negotiating within NATO for a new Sonar for Portugal and opposite the table was Dutch - Signaal Aparaten. Well they didn't know that I could speak Dutch.

CHARLES: Oh is that right?. Well the Europeans are very careful because many of them speak four or five languages quite common.

INTERVIEWER: They do, but they were speaking amongst themselves the Dutch.

CHARLES: How did you get in here, you're not one of us? Yes I could see that, yes.

INTERVIEWER: But I hadn't ever thought to tell them that I can speak their language and I thought now it was too late so I just kept on going.

CHARLES: That's interesting. I'll tell you another one. This really doesn't have ... anyway (turn that off okay?) [the recorder].

[unrecorded anecdote]

Attending the NATO military meeting what did they call it - Ministerial meeting four times a year. Four times a year for those. Okay, that's good, let's go.

INTERVIEWER: Director General of Force Development.

CHARLES: Well as you know I was living in a sort of an airy fairy world trying endlessly and to a certain extent we didn't seem to be running into directly money problems; we had more money, but nobody knew where the hell we were going. We had to a certain degree integrated staff in Ottawa and incidentally at this stage of the game the engineering fraternity were integrated into this too. As far as I can recall Charlie Birchall and Charlie Dillon were suddenly appeared in meetings that they normally would not have been at under the old setup and so as any integrated staff frankly it was an

improvement. Not particularly for the Navy but overall in the defence establishment and I thought Miller who ran this thing as effective as he could, was really, was really quite good.

INTERVIEWER: That's Air Marshall

CHARLES: Yes, yes. So remember that the Brits and the Americans had also set up a Chairman of the Chiefs that they had a similar sort of integrated staff at this point. So there was, forget about the uniforms and the titles, but from a practical military thing it made sense.

INTERVIEWER: Integration.

CHARLES: You got in to a problem of the Canadian Army looking at the world one way and the Canadian Air Force looking at it through NORAD and us looking at it through NATO. Anyway there were three different looks at this thing. The Diefenbaker government had introduced sovereignty into the thing; a vision for the north but nothing really happened about it much. When Pearson came back, and indeed Hellyer, they were still on the NATO kick so we as far as the Navy and [indistinct: DGMDO(?)]. I was still on the [indistinct: Naval Force ???]. But the number of ships dropped, now before it was 42 now we were down to 24 and this was basically the six, or sorry the 20 Sallies and the four fleet destroyers.

INTERVIEWER: Four fleet destroyers. Do you remember what year that was when the force goal was officially dropped?

CHARLES: Well it was dropped by the time I became CFD so it must have happened during Rayner's time. I think you might find it that Lund has got the date in there somewhere or he got it from someone else I don't know.

INTERVIEWER: He probably does yes.

CHARLES: The actual it had dropped by the time I got there in sixty five. I know that for sure. At this stage of the game Brock was on the east coast... [indistinct word] find that but at this stage of the game and Bill was out on the west coast.

INTERVIEWER: That's Landymore?

CHARLES: Yes and they were having trouble manning the ships and again this was the, the now of course we were off on this combined list thing and couldn't meet the force goal, the NATO force goal, on from the manning point of view. I can certainly recall this was becoming a concern with Miller that we were always priding ourselves on our contribution to NATO that we weren't in fact doing what we said. NATO was telling us we weren't doing it. So that went on until the spring of 1966. It was in the fall of '65 Hellyer fired Brock. I'm not going to comment on it. Anyway it happened and it certainly put Bill into a difficult position to move from the west coast and having problems with

Broughton coming, major problems and one of them was problem training and you know which list over the General List, but then when we went to the weapons, later on,

INTERVIEWER: Weapons officers?

CHARLES: Yes.

INTERVIEWER: Specialization. Well, I'm not sure when we went to it but I know by the time I came in to the system in 1972 already talking about specializing away from the weapons officer and ops officer into operator and maintainer.

CHARLES: Alright well I was really trying to think in my head what Bill thought, but again it was a personnel problem. Incidentally it had nothing to do with unification at all. In fact...

INTERVIEWER: Just numbers then, qualifications.

CHARLES: Yes, numbers with the right people in the right jobs and training. Anyway of course, oh yes, well now when Hellyer sent for Bill; Bill came up here to do a presentation to the Defence Committee. I was not involved in this in anyway, I didn't see Bill's paper and certainly led to considerable controversy for which I had no effect or, or certainly I had an interest. There was nothing I could do about this, I guess I was getting on with doing what I was supposed to be doing. This led to the problem of Hellyer and Landymore. What was happening down on the east coast, other than people telling me what was happening... [indistinct words]. It was a bit frustrating in Ottawa because they were trying to set up a central defence filing system, management system and that led to all sorts of difficulties. But anyway I recollect Bill came up to the Defence Committee and this led to some possibility of the paper being falsified and... [indistinct words]. Which in fact did happen and Davy Goose was the Assistant Defence Minister Davy Goose was an ex-... [indistinct words]. (I have it here).... As far as I can recall he ordered Landymore to come to Ottawa and asked him to resign and Bill said he wasn't going to resign. To make it short, I met Mickey he came from the west coast and he just decided to resign and he resigned. Bill of course gets his pension... [indistinct word] because he was fired; Mickey takes a loss in pension,

INTERVIEWER: Because he resigned.

CHARLES: Then, O'Brien was CANCOMFLT at this time and he was ordered to report to Ottawa in July 1966. Scruff came into my office, "Johnny what's going on?" I said, "Scruff I don't know". We got Hennessey, got together... [indistinct word] and Comptroller... [indistinct word] no cheaper here offered to pay... [indistinct word]. We sat down and decided what we were going to have to say a) whether we were going to go on or b) what... [indistinct word] decide what Scruff would go to...; which Hellyer accepted. Scruff took the offer because I'd been on the west coast more often I knew most of... [indistinct word]. So that's what happened by the first of August 1966.

So I left Ottawa without anybody knowing where the hell the future was or where we were going other than Hellyer kept saying you're going to get in to a common uniform and common rank. One thing Hellyer., Allard became Chief of Defence and he decided, and this is interesting, relationship with all these various members he established Training Command and Mobile Command and NORAD and oh there was Materiel Command.

INTERVIEWER: Materiel.

CHARLES: Yes, and so this affected a large number of Naval people because they took them out of the Navy altogether at that time. Anyway we would have a meeting in Ottawa every month and the odd part of it and I'll comment because Allard was the Chief of Defence, Vice Chief was Freddie Sharpe, the Commander of Mobile Commander was Bill Addison, Commander Materiel Commander Bob Lofta, the Commander of Air Transport Commander was Freddie Carpenter, there was O'Brien and I. You know what? We'd all been to RMC together for the entire..., so in a funny way it made it easier. Hennessey was the Comptroller and there were one or two airmen Reyno[?] the rest of us were ex-squadron commanders. You faceless bastards [laughter]. And he did. And you could get in to great arguments but oh boy but it sure as hell made it easy.

INTERVIEWER: Made it easy.

CHARLES: Easier to resolve. Allard never knew what the hell was going on anyway or... [indistinct word]. So anyway I then spent three years out here and,

INTERVIEWER: Maritime Commander.

CHARLES: Yes and all the time we were working with the Americans [indistinct words] Vietnamese war and they hadn't the slightest interest in NATO. So we were living in a different world. They were concerned about the Russian trawlers that were up and down the area periodically and people they weren't assuming.

INTERVIEWER: Yes. They were different Navies weren't they?

CHARLES: Yes completely yes, yes and Nam was a serious thing out here as you know. So in that sense I lived in isolation from what the people in Ottawa were doing because I was working... [missing words] ships and American exercises... [missing words]. Let's be honest our geography helped you know part of Canada to Alaska [??]. We held everything close from a communication point of view.

Nanoose was a godsend. Although they provided all the capital, we did all the maintenance, the civil engineering, the water for example water. We still had Masset going, both the HF/DF station and an intercept station. Gradually there was quite a good link at across the Alcan highway. There was some dispute about the border between Alaska and North West Territories. Whitehorse was in the Yukon. To get up to Herschel Island; you couldn't, oil, oil was... [indistinct words].

So I'm going to come back. Scott had a real problem on the east coast to be honest with you. As far as here went oh rather interesting, Bob Battles was at the time Commander of the Yard then of course he became the Base Commander. Now a) that was [indistinct; preferable (?)] many ways... [indistinct word] ever. So Bob was Base Commander for Work Point, airport, airfield – we had Trackers over there VU-33.

INTERVIEWER: Bob Battles he was...

CHARLES: An electrician.

INTERVIEWER: Electrician

CHARLES: Yes he was a hell of a guy. Frewer was a bit annoyed. Frewer originally was Base Commander, but anyway Bob became Commander. He didn't come under my Command, remember, he came under Materiel Command. This is one of the things that Bill Landymore opposed. I didn't find it a conflict. It worked quite well and certainly at this stage of the game Bob seemed to be getting the money for the contracts and if he didn't get it he'd just come out of the meeting and pout.

So anyway it worked out quite well here. I don't think anybody had any great problem with it. There was only one or two people that were unhappy about it here, about the change in uniform.

But here's a funny story, normally the guys were working greens during the day and there was never really a problem, green working dress from anyone going around in jeans. When we went to Hawaii or San Diego we wore whites so you could say that we didn't have the same green uniform problems.

INTERVIEWER: I have a story to recount. I don't know whether I've told you this but when I joined, promoted from cadet to mi shipman actually to Sub Lieutenant I had to report to my first ship which was the *TERRA NOVA* and I had to report in my green uniform. I was the first officer to come aboard in a green uniform and I came aboard and the XO told me to go home and change and on my way off the brow I ran into the Captain who was Max Reid and he says oh where're you going Sub Lieutenant Jorna? Well sir I'm going home to change. I didn't know what I was going to change into because that is all I had but anyway we scrubbed around and I got my cadet uniform fitted out as a Sub Lieutenant. So the thing I admired about Max Reid was the next day he reported onboard the ship in his green uniform just to support me. That I thought was a very magnanimous thing to do.

CHARLES: Well various people played it differently. Certainly Scruff and I, in fact to a certain degree Mike... [indistinct word], we were the first ones to wear the green and tried to put gold braid on, in fact. We ...awful...

INTERVIEWER: Gold braid and the executive curl on the green uniform.



CHARLES: There were a lot of unhappy people with it, but the wives of the people in the old sailors' uniform,

INTERVIEWER: Yes with the bowes and the fiddlies.

CHARLES: they were quite happy about the change. The minute ...and I knew that you know rules are made by management, changed by management and the day we went into those greens I knew we would not stay in greens, I was just convinced.

INTERVIEWER: And you were right.

CHARLES: Yes I was right.

INTERVIEWER: And eventually ended up with a decent naval uniform.

CHARLES: Well I think I said when I was at RMC I wore red, white and blue. When I was in the Navy I wore blue, white and khaki. I don't know what I'm going to be wearing when I retire.

INTERVIEWER: Yes, well those were interesting times.

CHARLES: But certainly in some ways the engineering people got caught, not about the uniform or the rank, but in the promotions. Now, and I must add, although I was never on a promotion board for senior people who were in the technical side, I certainly have had a fear that quite a number of our Naval engineering people, and this is both marines and electrical, mechanical definitely suffered for sure, suffered as a result of the way the promotion system went. I can't contribute more than that, but I suspected that that's true. You may also say that some gained by it, I don't know.

INTERVIEWER: Some might have but there was a feeling of a glass ceiling although there are examples of engineers as Rear Admirals today. My good friend Wayne Gibson retired as a Rear Admiral, combat systems.

CHARLES: Well that's what I say some may have gained by it. Anyway it put them into something which they hadn't joined to get into; let's put it that way.

Anyway, tell you another sort of peculiar thing is, as a result of this a lot of property became surplus like here...[missing word]. And from the Navy point of view it changed drastically, now I was Aid to Civil Power I was in contact directly with, for the whole of the province of B.C. you know, all the Army in Chilliwack, all the people. So from that point of view I sat down and recommended people. Remember they built Diefenbunkers here, and they had these – there's one up in Nanaimo and all the communications and all the people that went to that. I suddenly acquired a whole bunches of stuff under my operational command that was not there before. I ran all the bases here along the southern part of the island and that included transport.

INTERVIEWER: Did that include Nanoose as well?

CHARLES: Yes, yes

[blank tape]

Well I'll come to that a bit later. Anyway this was when I went Fred Sharp was CDS. Okay where are we? Well anyway I stayed out in the Command and I had a bit of an affair - I don't know whether I had a stroke or not but I was offline for a bit. I was relieved by Harry Porter in the fall of '69, summer of '69, and moved to Ottawa for a while. At this stage of the game Freddie Sharpe was CDS. In January of 1970 we had a new....

### **End of Tape 3 side A**

### **Tape 3 side B**

CHARLES: At this time I was... [indistinct words; Ops ...Ottawa] and I was not even at the airport "I'll be in Plans" and so I became Deputy of Planning. I had that job for two years and this was... Now, first of all Leo Cadieux was the Minister for a while and he was a very genial politician; didn't have any problems with him at all as far as I can recall. The organization.... I didn't spend much time with Allard as Chief of Defence Staff. I told you I was only there a short period of time. It was Freddie Sharpe he was the stabilizer in the system, all, even under Allard which... As D/C Plans I was not a member of the Defence Council, but I attended most of the meetings. I went with the minister to nearly all the Ministerial NATO meetings. I was the senior military fellow on the PJBD.

INTERVIEWER: What is the PJBD?

CHARLES: Permanent Joint Board of Defence, a very good organization very useful too. People talk about it quite frequently though.

The one good thing we did there and this had to do with the question of the UNTDs and all the things in the university. I had a rather good soldier called Bell, Gordon Bell. He was a Brigadier and he said we've got to do something about getting people interested in the service. So we set up under DC Plans these military study programs in the various universities. Now Bell did all the hard work on this. I went around and saw the presidents of the universities because it was well organized; contact with the government was political basically. We started off in UNB and Toby Graham [?] was there and I think Milden was one of the students. We had courses in Queen's. RMC was not giving these sort of courses at this stage of the game, they do now but, but it would with ROTP, so that made sense. We had something in Calgary and we had [indistinct: Reg/Roads (?)] Royal out here. These were part of the history department as a recognized course. We encouraged retired people and indeed service people to get in to it, as indeed they did. So

you suddenly found the young students taking history were sitting in classes with guys who had been around for a while. To the best of my knowledge that was more successful in getting things like interviews and records and research into the Armed Forces than anything else and it's still a very active thing. So I was really quite proud of, we used to go on French courses; that was... The Americans did away with their National Defence College; the whole RMC graduate program. So that was the one thing I did do as Director General of Forces Ops[?], it was more interesting.

At this stage the ministers were changing at the rate of knots. Anyway this was about the first time I helped [indistinct, his nibs??]; this was Donald McDonald. He was a good fellow. We were still on the NATO thing up until, now when did Trudeau come in, I forget?

INTERVIEWER: I can't remember either my minds gone blank on that. It was the mid-seventies wasn't it?

CHARLES: Anyway things changed when, and that's right as I (yes I checked) was Deputy Chief of Plans and I was relieved by a civilian. The name was Greenwood. He'd come from the Treasury Board. That was as a result of Trudeau and Pitfield setting up and Eldon Armstrong who was the Deputy Minister, and a very good one, was relieved by a fellow from Finance or something like that. Neither of these fellows had any experience with the Fleet and so the question of a) briefing to start with; neither had command of the situation at all. Not with us, but if the Deputy Chief of Plans went to a NATO meeting or went down to the United States I can tell you there would be questions, who the hell's this guy with no security clearance. I don't think Pitfield or Trudeau oh I don't know whether they knew what they were doing, but that's what they did. They caused considerable upheaval to people by introducing civilians into the system.

Now at this stage of the game JaDex, J Dextraze [CDS] that's right, I now can't remember how that was related to Trudeau, but anyway I'm sure that at this stage of the game Trudeau came in and they produced the next paper and I have part of it here, but suddenly sovereignty became priority one and NATO was third and that introduced great problems. I became Chief of Maritime Ops as a result of JaDex realigning the system. I believe from the soldier's point of view saying you know [indistinct] but getting anything approved unless it applied to sovereignty was practically impossible.

We started the next lot of ships, again we were still on 'replace the ship'; we missed a few so we would still have to get back two years but that was the get back[?] from the Minister of Transport. I can't quite remember what the stage of the contractual arrangements were for the next lot. I have a feeling we got that approved. [indistinct] McDonald. Richardson was the Minister of Transport. We got another minister in there. Anyway certainly during this time we were working on another set of ships and in general, there was general agreement that we should have them. The problem was how do you justify them under this peculiar system that Trudeau had set up. Funny enough the PJBD was helpful in this one because the Prime Minister had appointed John Eyre who

was previously a Senator and had a command of a corvette during the war, was one of the few guys who could talk to Trudeau. [indistinct] he was a staunch supporter and in the right place at the right time. We certainly didn't have that approved, but it got to the stage where it was on the road.

INTERVIEWER: On the road and this would be the class of ship beyond the 280?

CHARLES: Yes that's right.

INTERVIEWER: So that wouldn't actually have been approved for a number of years.

CHARLES: That's right. We were fighting for replacement of the Sea Kings.

INTERVIEWER: That's right yes. So they, the ships you're talking about now though were to be justified eventually became the CPF?

CHARLES: That's correct, correct. Now the process that was determined under the immediate Parliamentary system took years to get approval because you had to send it to all the other departments. They couldn't stop it but they could delay it and everybody could delay it and they did. Oh it was a make-work system and I think it still exists to a certain degree there I'm not quite sure.

INTERVIEWER: It's really hard to de-bureaucratize.

CHARLES: Yes that's right, so I think a lot of people wrote reports and summaries of how to do that. So and now I'll mention here though it was before, I was talking about the emergency measures thing okay. Freddie Sharpe was CDS and Dare, Mike Dare was the Vice Chief. We were faced with a pretty tricky problem in defence to deal with these problems you know. Trudeau had insisted that Quebec apply for support; that came in writing. Then the question was what kind of support, where and trying to find out the answer to that in Quebec. Mike Dare had a terrible time with various police chiefs in Montreal and there isn't much RCMP in Quebec made it very difficult to find out exactly who was doing what and who knew what and I give full marks to Mike Dare for handling a very difficult situation. It was quite a load we wear. That was compounded by the PM's own office. We learned a lot from it. How the technical and the engineers came in to it this I don't know, but there was a large amount of engineering problems there on the one hand, protection you know like protecting transport and the bases. I can't [indistinct] at the moment not sure who, there were several Naval technical people involved.

INTERVIEWER: I knew vaguely the [indistinct]

CHARLES: Well so am I, I had no direct responsibility in any way for either [indistinct] but in a sense for any such bunch of units, but basically it was soldiers but we had Naval people you know the divers and all that sort of people. I'm a bit vague as to exactly a lot of them were sitting around the table with Mike Dare they were the people who might have the answer to the problem [indistinct] the question but nobody knew what the hell

was going to happen tomorrow and this included the RCMP. So I don't whether that's really been analysed by anybody in a constructive way or not and just how the civil engineers and the technical people... because you see they no longer came under CMO. I had, if you were talking about a shipyard or a dockyard, sea [indistinct]; I had no responsibility over it.

I'd be going talking to the Chief of Materiel Command ??? [missing dialogue]  
So I'm sorry I'm being vague about this, but I certainly remember the problems Mike Dare had in finding out what the hell he had to do. I think you'll find that quite a number of the bases in Quebec had quite a problem with the security of the base. I forget who was taking over from Anderson after that.

So a funny thing happened on the way to the..., The money went down that was one thing old Trudeau did; he spent money on everything else, but he slashed the defence budget, yes. He pulled the people out of..., I think I told you we were in the business of providing support for the new main NATO contract; Mobile Army to have a mobile force in Norway or something. Did I tell you about it?

INTERVIEWER: I don't remember.

CHARLES: And so the question was, how do you re-supply? It's still a question, how do you supply these forces and the idea was to send out a whole bunch of tanks and support items to Norway and then fly the people over.

First of all it was a question how to get the tanks to Norway to start with and this is where the question of whether we should have a *PROVIDER* type of thing. It became a question of a transport type of vehicle arose, that was certainly very much in the air.

INTERVIEWER: Is that when the CAST Brigade concept surfaced?

CHARLES: Yes, yes, yes. Also our experience in all over the world, the Americans do it right in the fact it's the whole package is there.

INTERVIEWER: The whole package is there, yes.

CHARLES: Yes, the ammunition ship with the oil ship and the maintenance ship and all the fleet trade may have to be visited so all of us could see how to handle things as they did you know what I mean in their context it solved their problem. Anyway the justification on their [indistinct] system at the moment where the government is going to send troops to any bloody place you know and *BONAVENTURE* to take, somebody to take the troops to Cyprus the other troops take you always want ships to take them and you want ships to maintain them when they get there. So everybody agrees there's a need for what you might call a transport headquarters type of a ship type of operation. Certainly this was a very active [indistinct] amount of money.

But the funny part was I was at this meeting where these [indistinct ....mobile ....] and the airman said, “Oh no we’ll fly everybody in there” and I said to him, “How many tankers will you need to go to [indistinct] England?” “What do we want tankers for?” I had trouble because this guy didn’t seem to recognize... When you’re flying in an air station and the gas truck came out, filled you up with gas and you flew off. All the ramifications of getting the gas there to start from – refining – you have to start at refining. The bloody airport in Goose Bay is a good example. They don’t grow gas in Goose Bay. But somehow this question of, I was surprised that [indistinct] and I ran into that quite a number of times. So in this sense I often thought our maintainers were rather remiss in not pointing out the problem of what you might call infrastructure. In any one of these damn things no matter what you do you go hm.

INTERVIEWER: So by the time we’re talking about this the AORs were already in place.

CHARLES: That’s right but they weren’t..., they couldn’t carry many troops.

INTERVIEWER: They couldn’t carry troops no, they could do.... I remember in Staff College talking about the CAST Brigade, the AORs and the DDH 280s going in to the GIUK gap.

CHARLES: We had no air defence. It got stalled.

INTERVIEWER: No air defence. I remember the other comment from an American was they wouldn’t go near the GIUK gap without three battle groups.

CHARLES: Well that’s the way it used to be. When I was in Norway when we didn’t have any air defence and I can tell you.

INTERVIEWER: That would have been quite a problem.

CHARLES: So the air defence problem came up every time people started talking about sending ships to Europe. But now good question and Johnny [indistinct, Hunter] was in on this way back so the transport thing was always there, it was a question of who was going to pay for it.

INTERVIEWER: Who was going to pay for it yah. Well it’s very much on the...

CHARLES: It’s still there. We have what we need. The Navy might find a helicopter come transport for shipping. That was always the thing I was trying to get when I was CMO is acquire the helicopter and the U.S. Marines, they got the right thing. The minute you start talking about aircraft carriers but if you talk about a transport shipment under current, you know the way we’ve been sending people around [indistinct]

However that’s the items that I was most concerned in that period when I was CMO. The command system had failed certainly Training Command was not working out. I think

you'll find in all the time training you couldn't train sailors in Winnipeg, you couldn't train some of the technicians in Winnipeg because they're taking care of staff **wasn't [?]** there. So Bob Timbrell initially was our Naval man in Winnipeg and he was trying hard to cope with this problem. Eventually I'm not sure **[indistinct]** he started training apprentices. The Army were very unhappy with training in Winnipeg. They believed in regimental training system and the air force all believed in Training Command except they didn't train the pilots in Winnipeg. There was hypocrisy in the extreme with that command and it didn't work. **[indistinct ...??? bunch of ??? ]**

Anyway in conclusion Stan Waters the Lieutenant General was D/C OPS, Deputy Chief of OPS. Jimmy Dextraze was CDS. Stan Waters was Colonel of the Parachute Regiment. The money was being cut by Trudeau so old Jimmy had to find money and he quite rightly came to the conclusion training the Parachute Regiment was a very expensive business because you had all these bloody airplanes flying around and you had all sorts of people packing parachutes **[indistinct]** that were involved in the battalion graduates(?). So anyway Jimmy told me the option to cut back on some of the operations and this was before the problem the parachute wing **[indistinct]** and cut out the training of parachute... Stan Waters was up a bunch of times and he said oh well the way to those problems is to get rid of all the reserve Naval ships. I went down to Jimmy and I said you know the Navy is an equipment oriented thing, if we do away with the ships nobody will give us any **[indistinct]** this will be a,

INTERVIEWER: A death spiral.

CHARLES: ...and you'll end up with zero. So I said I wasn't taking Stan Waters' advice at all and we were talking about chicken feed as far as the amount of money went. We had 20 ships in reserve I believe **[indistinct]** Anyway Jimmy decided that Stan Waters was becoming impossible so he sent him off for a French language course and I became D/C Ops. Well he was a rather an interesting individual. This is when we had guys in Vietnam we had a two **[indistinct]** team there working for the Indians **[indistinct]** I guess trying to solve the problem. McAlpine Brigadier, yes McAlpine, Danny **[indistinct]**, the guys who were in Vietnam, and our ambassador was Michel Gauvin. The Americans were very good, but our guys were a pretty good defence you know our Canadian Forces, anyway three or four of the guys were captured by the North Vietnamese. The question was how did you get them released; naturally the North Vietnamese wanted the Americans to get out of Vietnam.

But again **[indistinct]** External... But anyway we said let's get the guys out, lets agree to whatever the hell they suggest and Doug McAlpine and the guys there said no, no they're here on principle and what not and we'll have none of that; they'll just do it again. Michel Gauvin supported Doug; he was very gratified. The Americans gave us a circuit to talk to them. We had a briefing by McAlpine which was nine o'clock his time whether it was **[indistinct]** in the Defence Department. So there was old Jimmy Dextraze and me and ADM from External and a couple of other people involved in this exercise. We didn't have a video but we had a voice briefing by **[indistinct]** voice telecom. Michel Gauvin said don't give an ??? **[missing dialogue]** and Dextraze was very good about this;

he wasn't going to take any horse shit from External At one point he didn't like ... External so he phoned the Prime Minister at two o'clock in the morning and said, "We've got to decide this whether we're going to do this or not. This is what I recommend. I think you should say...". So the Minister, the Prime Minister, decided to stand firm and eventually we got the guys back quite frankly. So anyway that was the sort of thing that happened in this peculiar era.

Anyway at this stage of the game I...

INTERVIEWER: This is 1974 now.

CHARLES: Yes '73.

INTERVIEWER: '73 is when you actually retired?

CHARLES: Yes, well not quite. First thing they asked...well they asked me to take over from Tony Storres the head of the Marine section of the Coast Guard and I looked at the problem and talked to Tony Storres about it because in those days you couldn't take two cheques from the government.

INTERVIEWER: Oh right, double dipping.

CHARLES: You couldn't double dip so I decided that I was just as well off... So I was gaily mowing my lawn one day - we stayed in Ottawa so the kids could finish high school; Ottawa's a good place to send kids to school - and the phone rang and this is oh ???[missing word] down in SACLANT here and he says Johnny how would you like to take, this is right on the phone, how would you like to take a convoy to Europe?

INTERVIEWER: Convoy to Europe.

CHARLES: Take a convoy to Europe. What do you mean on paper sir, he says no a real convoy. So I said well why are you asking me? He says do you know how to do it? I said yes sir. Do you want the job? Yes sir. He hung up.

INTERVIEWER: So were you still in the Navy when you did that convoy?

CHARLES: No, no this was in 1976. I wanted to tell you about it, it was rather funny. Dougie Boyle was Maritime Commander and I said Dougie what the hell is going on? He said well you better come down and see. The question of, and this was the whole of the American Armed Forces, were talking about support of the forces in Europe. The same problem, it was still there and it won't go away. How do you support them and this was particularly after submarines, nuclear submarines could fire missiles. You could see what the problem was and SACLANT had a problem and so he had to decide whether in fact for the present day scenario convoys were on. So what he did [indistinct] he chartered seven fast merchant ships which were in ports in [missing word] we will run these ships in convoy over to Europe to see whether we can beat them. This was the convoy I



became Commodore, real ships but we didn't have the convoy conference beforehand. I knew what I had to do but the ships, I picked up an American ship at the [missing word] in Charleston I had a bloody good time at ... Johnny Carling was my Chief of Staff. I had three reserve...

INTERVIEWER: Admiral I think that concludes our interview and I really want to thank you for all the interesting stories. An amazing career, I think you must of, the things we talked about just about spanned many of the issues that were happening through this period of time and they keep coming up so you've lived through the whole gamut of them.

CHARLES: Yes there's a familiar ring.

INTERVIEWER: A familiar ring and I thank you very much for this interview sir.

CHARLES: Okay.

## ACRONYMS & ABBREVIATIONS

|               |  |
|---------------|--|
| AC            | Alternating Current                            |
| A/CNS A and W | Assistant Chief of Naval Staff Air and Warfare |
| ADM           | Assistant Deputy Minister                      |
| AM            | Amplitude Modulation                           |
| AOR           | Ammunition Oiler Replenishment                 |
| ASW           | Antisubmarine Warfare                          |
| CANAVMOD      | Canadian Naval Modification                    |
| CANCOMFLT     | Commander Canadian Fleet                       |
| CANUKUS       | Canada, U.K, U.S                               |
| CAST          | Canadian Air-Sea Transportable Brigade Group   |
| CDS           | Chief of Defence Staff                         |
| CFD           | Chief of Force Development                     |
| CMO           | Chief of Maritime Operations                   |
| CNS           | Chief of Naval Staff                           |
| CO            | Commanding Officer                             |
| C-in-C        | Commander in Chief                             |
| CSE           | Combat Systems Engineer                        |
| CW            | Continuous Wave                                |
| DC            | Direct Current                                 |
| D/C           | Deputy Chief                                   |
| DCNS          | Deputy Chief of Naval Staff                    |
| DDH           | Helicopter destroyer                           |
| DEW           | Distant Early Warning                          |
| DF            | Direction finding                              |
| DM            | Deputy Minister                                |
| DN Comm       | Director of Naval Communications               |
| DNPO          | Director Naval Plans and Operations            |
| DRB           | Defence Research Board                         |
| DSO           | Distinguished Service Medal – Officer          |
| EDO           | Engineering Duty Officer (USN)                 |
| FOO           | Forward Observation Officer                    |
| GIUK          | Greenland/Iceland/United Kingdom               |
| GP            | General Purpose [Frigate]                      |
| HE            | High Explosive                                 |
| HF/DF         | High Frequency Direction Finding (Huff Duff)   |
| IR&M          |  |
| IRE           | Improved Restigouche Class destroyers          |
| ITU           | International Telecommunications Union         |
| MAD           | Magnetic Anomalous Detection                   |
| MEG           | Megahertz                                      |

|         |                                     |
|---------|-------------------------------------|
| NAG     | National Armament Director          |
| NATO    | North Atlantic Treaty Organization  |
| NORAD   | North American Air Defence          |
| NRC     | National Research Council           |
| OPS     | Operations                          |
| OR      | Operational Requirements            |
| ORT     |                                     |
| PG      | Post Graduate                       |
| PJBD    | Permanent Joint Board of Defence    |
| PO      | Petty Officer                       |
| RAF     | Royal Air Force                     |
| RCN     | Royal Canadian Navy                 |
| RDF     | Radio Direction Finding             |
| RN      | Royal Navy                          |
| RMC     | Royal Military College              |
| ROTP    | Regular Officer Training Plan       |
| RP      | Radar Plotter                       |
| SACLANT | Supreme Allied Commander Atlantic   |
| Sig     | Signal[man]                         |
| SOSUS   | Sound Surveillance System           |
| TDS     | Tactical Data System                |
| Tel     | Telegrapher                         |
| TMC     | Technical Materiel Corporation      |
| UDO     | University Officer                  |
| UNB     | University of New Brunswick         |
| UNTD    | University Naval Training Division  |
| VDS     | Variable Depth Sonar                |
| VHF     | Very High Frequency                 |
| VMD     | Victoria Machinery Depot            |
| VU-33   | Canadian Air Force Utility Squadron |
| WT      | Teletype                            |
| XO      | Executive Officer                   |