



Oral History Interview Transcript

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Interviewee: W.B. (Bill) Christie

Interviewer: Gordon Smith

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Transcription of Interview Number 6-C10
Interviewee: W.B. (Bill) Christie
Interviewed October 17, 2006
By Gordon Smith

INTERVIEWER: This is a CANDIB Oral History Project and presents an interview with Rear Admiral Bill Christie. It was recorded at Ottawa on the 17th of October 2006. Bill Christie was interviewed by Gordon Smith. Both the interviewer and interviewee have signed the copyright release form.

This interview relates to the DDH 280 [Destroyer] program which spans a period from 1964 to 1973. It reflects the particular experiences of our interviewee who was directly involved in several aspects of the project. As a Naval Engineering Electrical Officer, Bill Christie took part in the development of the design concepts for the class and participated in the building and setting to work phase.

INTERVIEWER: Bill, when did you first get involved with the DDH 280 program?

CHRISTIE: Well it was probably during the period 1962 -63 when I took over from Howard Minoque as Director Marine Electrical Engineering, DMEE. At that time it was more exploratory work towards a vessel to replace the general purpose ship which had been canceled just immediately prior to this, and a smaller ship such as the patrol frigate was envisioned on the horizon. We had people looking into possibilities of methods of propulsion, gas turbine being one of the alternatives being considered at the time. I was only in that job for one year period and the subsequent project definition took place after I left the DMEE job.

INTERVIEWER: When did you go over to the UK on the submarine project?

CHRISTIE: I was posted there at the end of 1962 to Chatham for construction of the Oberon class submarines. Similar project indeed to the one back in 1957 when we did the carrier, [HMCS] Bonaventure.

INTERVIEWER: Then when you came back, you were involved in the DDH 280, when you became DMEE again, or...?

CHRISTIE: No. From the Chatham dockyard I spent another year in the UK at the imperial defense college which is the year 1966, coming back to Canada in 1967 to a job in headquarters called Director Weapons Systems, DWS. That was under DGMS equivalent, if you wish, to DMEE, except dealing with weapon systems. At that time of course, we were closely involved with Litton, who was by now the designated integrator of the weapons and fire control systems. I was only in that job for one year and proceed to Halifax, to the dockyard.

INTERVIEWER: Who was the Director General [Maritime Engineering and Maintenance (DGMEM)] at that time?

CHRISTIE: That was Graham Bridgman.

INTERVIEWER: Graham Bridgman, yes. Then you went to Halifax as the

CHRISTIE: ComSupLant [Commodore Superintend Atlantic Coast] in 1968 and that job of course had no direct connection with the construction programs at all. It was rather interesting though; at that time we were doing some jobs in the dockyard which were related. We took on

the conversion of [HMCS] Terra Nova which was a 257 ship being done for the first time in a dockyard rather than in a public facility. This was to establish firmly the man hours for that particular conversion. I think probably it did that task but no other ships were converted to that particular configuration.

The Terra Nova project may have relevancy to the industrial benefits subject because this was for the first time that the Navy had taken in hand the complete conversion of one of its own ships, rather than contracting to the private sector. This was not received with great enthusiasm by the public sector to say the least because this was a reverse implementation of industrial benefits. They also put the squeeze on the shipyards too.

INTERVIEWER: Dave McKechnie and [Canadian] Vickers got hold of it [the refitting of the Destroyers] and did all of them, pretty well, after that.

CHRISTIE: No, no others were done to Terra Nova standard.

INTERVIEWER: No?

CHRISTIE: She is a unique ship or was. Don't you remember she had a completely different mast structure? We had the Asrock in the middle of the ship.

INTERVIEWER: Yes.

CHRISTIE: Some of these were predecessor type of things to what became 280. The Terra Nova was a unique ship after that conversion.

INTERVIEWER: OK. Now when did you do that technical.... you remember you were telling me all about technical, TSD I guess it was, the technical side, and you changed over from one to another. Let me get more about what I'm talking about. You were in the technical service, TS? There were two reorganizations going on in the defence headquarters and also with unification. Could you tell us a bit more about the reorganization under the headquarters organization?

CHRISTIE: Yes. Following quickly upon the implementation of the so called unification of the military, a committee was imposed by the government called the Pennyfather Committee to examine the way in which Defense Headquarters operated. The report of that Pennyfather Committee caused a major change in organization in that the previously environmental divisions, with things like technical, marine, air and land were combined under one heading called the Chief of Engineering.

The result of that for the Navy was that a previous organization was consolidated. The consolidation resulted then in the individual environmental sections reporting to a common military headquarters in this case the Chief of Engineering. At the same time the Pennyfather Committee was perturbed in the way in which major projects had been implemented by DND perhaps primarily in the Air side, but also a fall out from the refit quite some years before in the carrier Bonaventure. As a result of this they designated that major projects henceforth should be operated under a strict program management system. Whereas the individual project managers carried out the prime and overall responsibility for their designated project. This therefore, resulted in the 280 being the first naval project to come under full project management. It's affect, for example, on people like DGMS, the job to which I eventually succeeded, found themselves in the position of no longer being responsible directly for the implementation of a project, but responsible in support of a program manager. This was the major result if you will, of the reorganization.

INTERVIEWER: Then you left Halifax and came back to Ottawa as the Director General Management Systems?

CHRISTIE: Well, I think you mean the Director General Maritime Systems, which is the job which Graham Bridgman was occupying. The dictates of project management had just been imposed if you will upon the Navy. Graham in fairness was having a little difficulty finding himself in the position where DGMS had heretofore been responsible for the technical aspects of ship production. It now dictated that he would be responsive to the needs of the designated program manager for the major project.

I had done some consideration of project management prior to accepting this job, and I have found it not too difficult if you will to approach it from that point of view. The immediate difficulty, however, was that a project manager was in place, namely a colleague, Derry Dawson. For various reasons which I'm not entirely aware of, the project had not been proceeding as the higher management wished at the time, and I was immediately faced with the task of finding a replacement project manager. At that time the best one that I could think of is one who had been a project manager for a fire control system in some years immediately before, but who now as a technical officer had become a general list capable officer and had just taken up his first command of a new ship on the west coast, namely Jock Allan.

So I had the unenviable task of pulling Jock, screaming if you will, from his first command, to take over the job of project manager which he did. I look back upon it as one of the best decisions I ever made in my life.

INTERVIEWER: Where did Derry Dawson go at that time?

CHRISTIE: That I cannot answer.

INTERVIEWER: I think he went down to NEDIT [Naval Engineering Design and Investigation Team] in Montreal.

CHRISTIE: Could be. Yes I think you are right about that, I agree, yes. Because under DGMS there had been a number of field activities, namely one, or....two in Montreal. In fact there were three in Montreal- the then NCDO, NEDIT, the Design Investigation Team, and the other one....

INTERVIEWER: NETE. [Naval Engineering Test Establishment]

CHRISTIE: NETE. So those were all field activities at DGMS and that is where Derry went, yes. Also at this time or shortly thereafter, the propulsion plant work had reached the point where the trial or proof of the propulsion system had been established in Philadelphia at the Philadelphia Naval Shipyard. [It] went there primarily I believe, in fact I'm quite sure, because they had a water brake which was capable of absorbing the power of the propulsion system, and the trial plant was set up there. Ed Healey was Officer in Charge, Liaison Officer, I should say, because it was really a contract job. This of course was under the oversight of the Navy, but implemented by Pratt and Whitney [actually United Aircraft of Canada Ltd.] as the contractor for the job. You were down there weren't you, at some stage?

INTERVIEWER: Yes I was. It was the Land Base Test Site in Philadelphia. Now had the contract been let to the two shipyards at that time?

CHRISTIE: Those contracts were let.... in 1963. I wasn't here when the contracts were let, so you will have to find that from some other source.

INTERVIEWER: Jock Allan took over as the project manager for the DDH 280 program. Can you remember any specific items of concern you had, with your DGMS hat on?

CHRISTIE: Well no. I think things started to progress much more rapidly at this time. The major concern as I recall, was the production of drawings in a timely enough fashion to meet the contractor's needs. Of course, this drawing production was out of the NCDO, with dear old Keith Farrell, and it was a job which, maybe in part due to a lack of sufficient staff, was having difficulty keeping up with the needs of the prime contractor. That was the major thing I recall at the time. I can recall discussions in terms of the propulsion side. There was difficulty about the flexible coupling, with the main [propulsion] plant being mounted on a raft. To transfer this [shaft power] to the relatively fixed position of the shaft, there was a pretty high powered flex coupling needed. We got involved on the naval side in trying to find a supplier, which ended up as being, as I recall, Vulcan in Germany.

INTERVIEWER: Vulcan [Vulcan Coupling]

CHRISTIE: That is about the only item I can specifically remember. After the first year there, there was again further change in positions. I moved from being DGMS, to be Chief of Engineering. The Chief of Engineering prior to that had been my colleague Stu Paden. He had replaced the army officer I indicated before, because, as Chief Engineering, as I said earlier on, I had responsibility for all technical Army, Navy and Air Force. In 1970 this was Stu Paden. Stu retired in 1972, I replaced him as Chief of Engineering for the ball of wax if you will. I can't recall who replaced me as DGMS at the time. It is in the records somewhere. As Chief of Engineering of course the DDH project therefore became, although a big one, only one of the other many projects that were going on at the time.

I do recall going to OTTO MALERA on the one hand with Stu Paden to undertake the firing of the first gun for the DDH 280. That was in LaSpezia, Italy. I can't recall that we had a Canadian liaison officer there. We did have one up in Holland, at Signaal Aparten where the fire control systems were being designed and built under the central program management of Litton. There we had naval liaison officers, initially Phil Monroe for several years, quite a few years, during the bulk of the 280s as I remember, although he had been replaced about this time by another colleague, Fred Herrndorf. We went there and again managed to see some of the first production of the equipments for the 280.

Little side light on those two visits I should tell you. I at that time had a staff officer in DGMS C ENG who was an Air Force officer - Stan Kerr by name. We had been commissioning quite a few ships during that period, not of the 280 but the last of the 257s and so on. So there were a number of commissionings. They come under the aegis of DGMS and my staff officer took this on. So we had the situation that an air force officer became the 'in department' expert on ship commissionings. Anyway we went off on this jaunt to OTTO MALERA in Italy and as we were going over Stu. Paden said 'We are going to Italy for this thing, it would be great if I could say some thanks to them in Italian'. Oh, Stan says, 'That's OK; I'll write you a little speech phonetically in Italian'. The son of a gun had umpteen languages at his disposal. So he wrote this thing. With the little ceremony with the builder, Stu got up and said his little Italian piece and it went over like a bomb. We then flew from Italy up to Hengelo in Holland and on the way Stu said 'Boy that went great, that Italian. If only I could do Dutch now for these people in Holland'. Stan says 'I'll do you one in Dutch'. He produced one and the same thing went on up there.

INTERVIEWER: So you got along fairly well with these two companies?

CHRISTIE: Yes, excellent, excellent. I think that as far as I recall, from the program managers point of view, there was no particular reservation about their [capabilities]. There may have been little things, but no major thing that I am aware of.

INTERVIEWER: Now, they would come under the overall Litton contract?

CHRISTIE: That is right. They were sub-contractors with Litton.

INTERVIEWER: How did you manage with Litton?

CHRISTIE: Fine. Vic Simmons was the then Ottawa representative of Litton, and as an ex naval officer himself, we had a pretty good liaison there. He was with us on these trips to Europe.

INTERVIEWER: So you got along very well with industry there?

CHRISTIE: Yes very well.... these were new departures of course because the navy had never gone to separate integration of their fire control systems, for example, and to my knowledge, certainly not for the propulsion systems. Even if we go back to the fairly major situation of the construction of Bonaventure, which had a fairly significant set of fire control systems. They were in fact integrated by the Navy, not the contractor.

INTERVIEWER: Now, Raytheon, I guess, was the missile [supplier]?

CHRISTIE: Yes, Raytheon.

INTERVIEWER: Did you have any problems there? Because I remember when we did the [machinery trials, we did not trial the missile systems....]

CHRISTIE: There were developmental problems with the missile launching system and considerable delays involved there too. I can't recall the specific details of the problems themselves but they were with the launching system for the missile as opposed to within the system itself.

INTERVIEWER: The missile system was installed by the ships, but it had not been trialed until the ships were at sea.

CHRISTIE: That's right.

INTERVIEWER: [Did you] have any troubles with trialing them when the ship was under military control?

CHRISTIE: No. I'm trying to think-where the hell was I? I think I was C ENG by this time. I had no direct involvement with those trials at all. I'm not aware of anything that surfaced....

INTERVIEWER: Up to that level.

CHRISTIE: No. About this same time there was a further reorganization that went on in Defence Headquarters. There were two commands set up. One called materiel command which was tri-service and was to take over all the maintenance of existing equipments in the system. The dockyards, for example, came under the A/DM Mat that is Assistant Deputy Minister Materiel, headed initially by an Air Force officer.

Within Headquarters itself there was an Assistant Deputy Minister of Materiel, A/DM Mat. A/DM Mat took over everything that had to do with the acquisition of material for contracting, procurement until the stuff was delivered if you will to materiel. The first A/DM Mat was Lou

Krutchlow, a civilian, a long time civilian employee of DND. Under the concept of reorganization, every group in headquarters that had an ADM, being DND, could be either [a] military or civilian ADM. Which ever it was, he had to have an opposite counterpart. What I mean, Lou Krutchlow was a civilian, A/DM Mat. He had to have an associate who was military - naval in this case. So I became the first Naval Associate of A/DM Mat. If A/DM Mat had been military, as some of the other sections were, his deputy would have been a civilian. This happened for example in Personnel. The Chief of Personnel was a military officer, Air Force. His associate was a civilian, if you follow what I'm saying.

INTERVIEWER: Yes.

CHRISTIE: Anyway, in the technical side, materiel, I guess since it was instigated, and this was back in 1973, and that is 34 years ago, A/DM Mat has always been a civilian. They have never had a military A/DM Mat to my recollection. Anyway, here I was in this position as A/DM Mat, therefore.... this is the thing I found early as CENG, that is Chief of Engineering, for the Armed Forces, I found myself as a naval officer having to become somewhat familiar with things like tanks and armored vehicles and fancy airplanes. So by the mere force of time and spread, the patrol frigate became one section over here among things like Leopard tanks and AVGP's [Armoured Vehicle General Purpose Vehicles] and fighter aircraft. In fact I have a picture around here somewhere driving a bloody Leopard tank, which I had done. So that type of thing sort of watered down one's involvement with the DDH 280.

INTERVIEWER: Now did you have any trouble with the contracts, with the lead yard which was MIL [Marine Industries Ltd.]. and Davie?

CHRISTIE: No. Of course these were yards which we had worked with over the years. We were fortunate in MIL of course we had Alec Arnott as PNO, a very experienced and capable officer, and down in Sorel, we had Slim Inglis, both very capable officers. We had no great difficulties. Tacki Veliotis was always a problem for anybody to get along with at times. I think all in all since MIL was the lead yard things went particularly well, compared to other programs.

INTERVIEWER: That was the Iroquois and Huron.

CHRISTIE: That's right.

INTERVIEWER: The other two, the Athabaskan and [Algonquin were built] in Davie.

CHRISTIE: When you consider they were all finished pretty closely to the same time, relatively speaking.

INTERVIEWER: The same year [1972]?

CHRISTIE: Yes. So, no, there were no great difficulties as far as I'm concerned with those shipbuilders. I'm sure that Alec Arnott, if he was here, could probably quote difficulties that I'm not even aware of. Alec of course left there just before the program finished. I'm trying to think who replaced him. I can't think. Alex went off to become involved with the drawing office which by now had moved to Ottawa. Because the NCDO, which was operated for the government by Canadian Vickers, they established an ancillary office in Ottawa about this same time and Alec Arnott was the first president of that company called Vickers System Engineering, but they were doing the final drawings for the DDH 280.

INTERVIEWER: They had a contract to maintain the drawings and do any shipalts.

CHRISTIE: Yes.

INTERVIEWER: Did that work out fairly well, that contract?

CHRISTIE: I think so. That contract went on for many, many years. Indeed to my knowledge I don't know when it ever terminated, to tell you the truth, because VSEI Vickers System Engineering eventually became Versatile Systems Engineering when it was bought out by Versatile and it was still in force at that time, because I worked for that company eventually. Then it eventually became MIL Systems Engineering in more recent years. I'm not sure if that contract is perhaps even still in existence... maybe.

INTERVIEWER: No MIL is now sort of pretty well disappeared and amalgamated with Fleet Systems.

CHRISTIE: So I don't know who does the drawings?

INTERVIEWER: I think there is a contract with Fleet Systems.

CHRISTIE: But it operated many, many years, the maintenance contract.

INTERVIEWER: Now you were ADM MAT..

CHRISTIE: Associate ADM MAT in 1973 with Lou Krutchlow. We had whole procurement if you will for the Defence Department. I was only there a year when over in DSS the head of the ship building branch, one John Strang by name, suddenly died and DSS needed a replacement. For reasons unbeknown to me they sought somebody out of DND and I was sent over there on secondment from DND to head the shipbuilding branch, of which the 280 was a contract, among quite a few others. We had quite major ones going at that time such as the R Class Icebreakers for the Coast Guard and some major vessels for Fisheries. Who took over from me? Jock Allan took over from me as associate ADM MAT from program management with the 280s, because at this stage the 280s had been delivered, which was certainly the end of my involvement with the 280s.

INTERVIEWER: Then when you went over to DSS did you have anything to do with the 280s on the missile system, for example?

CHRISTIE: No, because in DSS they were divided more like DND used to be. As shipbuilding branch we had the production of ships, but not the production of electronic equipment-they came under the electronics branch of DSS which was headed by an ex employee of DND named Al Allan. Allan then became an ADM in DSS to whom I reported in DSS, who years earlier had worked for me in DND. He'd been a long time employee in DND many years before.

INTERVIEWER: Is Al Allan still alive?

CHRISTIE: Oh gosh, you should have an interview with Al Allan he was certainly much involved. In fact Al was a member of the DDH 280 Program Review Board.

INTERVIEWER: Could you tell us a bit more about this Review Board?

CHRISTIE: That was established about the time the change in project management took place. Not only did they say we should change the project manager, they wanted imposed if you will..... this by the way was the Treasury Board, who was insisting on this, to have an oversight. It wasn't just this project, they applied it to-I forget the particular airplane project at the time-but it applied there as well. Each one had its own review board. This was an interdepartmental board from DND, DSS and Treasury Board to which the Program Manager reported. Not in a subservient way but as a progress type of direction. The Program Review Board did not have

any power to direct the program manager to do things but to make recommendations to each department what should be done if you will. The Project Review Board was chaired by the Treasury Board, specifically in that case, John Killick, who was at that time the Defence member on the Treasury Board. As the Associate ADM MAT, I was the naval member, DSS-AI Allan was the representative of DSS, and there was a lawyer whose name I can't remember, and somebody from Industry, Trade and Commerce who might have been, I may be wrong, Herb Stainlin.

INTERVIEWER: Did Larry Sellick get involved at this time?

CHRISTIE: Where was Larry at that time? When I had the Shipbuilding Branch Larry was Deputy for me at the Shipbuilding Branch.

INTERVIEWER: When the ship has been completed and commissioned then there is a technical acceptance of the ship produced. Did you get involved with any of those?

CHRISTIE: Yes. Historically the acceptance had always been by the Chief of Naval Technical Services. By this time with reorganization and the position of either DGMS or C ENG, I accepted I think, three if perhaps all four, of the DDH 280s. This is a function carried out at the hand over of the ship if you will from the contractor to its ultimate owners, and it is carried out on the day of commissioning of the ship. So I think if memory serves me right I certainly did three. Not sure about the fourth one.

INTERVIEWER: Were there many items?

CHRISTIE: Pretty lengthy, yes. The items on the deficiency list, which has a well known number which I can't say, was particularly long I think, on the first ship in both yards.

INTERVIEWER: That is Iroquois.

CHRISTIE: The first ship out of Davie was a long one as well. These defect lists of course, are produced by the PNO and his staff primarily, in the case of the 280, through the oversight of the program manager. They are subject to a long negotiating prior to the actual commissioning. So the list as it is presented for formal signing is an agreed list if you will. In the case of the outstanding defects, contractually, these left a number of items for which the shipbuilder was either responsible to implement or finish the job, or in turn, if done by a further contractor or by the owner, he would be recompensed with money thereof in lieu.

INTERVIEWER: The DDH 280 program did the preliminary design, the contract design and contracting with a shipyard, and MIL got involved with the drawing program. Then the next big project of shipbuilding was the Canadian Patrol Frigate. That whole contract was let out to St. John Drydock as a whole complete design and build, and test and trials, and then given to the Navy. Can you give us your comments on that, Bill, regarding whether this a good way of doing it, of going out to industry for the whole contract, or should we go back to the original way of doing it, in that the Navy does the design and then goes out to contract?

CHRISTIE: Well I think in retrospect having looked at it, to begin with, we couldn't go back. The Navy was unique within DND of having the capability of doing complete system design. When you look back at it, the Air Force never designed an airplane in house. The Army never designed a tank. The Navy was the only one of the services that designed its own vehicles. This of course was carry over from our past with the Royal Navy, which was doing the same thing. To do that the Navy therefore had an enclave of technical officers with the relevant education

and capability to do these things. It built up the organizations like the NCDO, though subcontracted, had the engineering expertise in headquarters to drive that, if you will. The Air Force did not have those types of people, nor the Army. Moving to the 280 the technical capabilities, I hate to say it, within the defence element, the military itself gradually was reduced. I'm not saying in capability but certainly in size. Certainly in experiences they no longer took part in these production activities. Certainly they did project management and they still do so. But they were not involved in the intrinsic basic design itself. Is it better? Perhaps in retrospect it is. Everybody has moved that way. The Admiralty certainly went that way. The US Navy went quite a bit that way. Not perhaps as far as we and the British.

INTERVIEWER: With the Spruance class for example, that was the first of the US Navy. Then when they went with the FFG program they went back a bit.

CHRISTIE: That's right; they waffled back and forth on the thing. Anyway yes, it is the way to go, because I don't think with our relatively small forces we can afford the in-house capability that would be required to do it, particularly as things have become much more sophisticated.

INTERVIEWER: But it certainly costs a lot more do it this way.

CHRISTIE: Well I wonder? If you consider the maintenance of the professional echelon you need to carry on year after year to have this capability in-house, I'm not sure that it necessarily costs a lot more. Because by contracting it out sure you have a high peak of costs during that particular project itself, but as soon as the project is over those high peak costs are no longer there. I'm talking now of design costs.

INTERVIEWER: Now particularly in DDH 280, the preliminary design was done by naval architects, marine engineers and half a dozen draftsmen and we designed the ship to a point where it could go out to contract. Now I know that St. John Drydock spent an awful lot of money on preliminary design of their ship. A lot of money. That could have been saved. Now we are talking about the joint support ship that is coming along and that again has cost an awful lot of money and it is not even out to contract yet.

CHRISTIE: When you say it could be saved, how could it be saved?

INTERVIEWER: By doing more design in house.

CHRISTIE: Still costs money though to do it.

INTERVIEWER: By your service personnel.

CHRISTIE: But they haven't got them. That's the point. They didn't have them in CPF. They didn't have enough people in-house to do that at all.

INTERVIEWER: Well they still have naval architects and marine engineers. The Daggars there are still the same number of Daggars being introduced.

CHRISTIE: The numbers are not the same. The numbers are down considerably from the days when we did it all ourselves. I don't know where you get the idea this is the same number of people there-there are not.

INTERVIEWER: Well, I can only refer to the "Daggars" [Engineering Officers]. We are training the Daggars now at the University College of London [England]. Right now there are two over there.

There are two that have just come back. If you look at the overall Dagger program, there are 65 Daggars in the Canadian Navy, that were trained by the Canadian Navy, going back to [Admiral] Caldwell, who was the first one, and the last one just came back from University College of London and we are still training about one a year.

CHRISTIE: Which is good. They should.

INTERVIEWER: Now why can't that Dagger do the same as I did, when I did the DDH 280?

CHRISTIE: Well you didn't do it all yourself, Gordon. You had a lot of support people.

INTERVIEWER: Very much so.

CHRISTIE: The support people are not there. The numbers that is what I'm trying to tell you.

INTERVIEWER: OK.

CHRISTIE: If you look at what makes up the total echelon of what makes up DGMS, for example...

INTERVIEWER: Yes.

CHRISTIE: Today whatever it is called, I don't even know the acronym for the equivalent; you will find it is far fewer people.

INTERVIEWER: Alright.

CHRISTIE: Even if you go down to the lowest draftsman, it comes to the totality of the thing that makes it possible to do the job. I would go further to say that for these four ships and the CPF in particular, they are a much more complex ship and therefore would have required if we tried to do it all in-house, more people than we had at that time, that's for sure, to do the CPF.

INTERVIEWER: Yes. Now did you ever get involved with any.....?

CHRISTIE: I'll take another example if I may? The 257's and the last of the 205's, those had been designed entirely in-house and the 257's of course were a follow-on program of the existing design. Yet the technical groups in headquarters here were so heavily involved with that particular program at that time, that those of us that went to Northern Ireland to do the ship Bonaventure, were given literally carte blanche. We sure reported what we did, but technical decisions were not made in Ottawa for the Bonaventure; they were done by what would have been the program manager on site. The guy, he was called PRCNTR, [Principal Naval Overseer], was the chief of the Canadian team. He had the authority to make complete engineering changes, which was not so for any PNO in Canada. But the point I'm making is because there was not the capacity in headquarters to do the two jobs at the same time.

INTERVIEWER: I see, yes, yes. Now did you get involved with any of the contracting? I remember Jock Allan mentioning to us that the ships were under contract and the Navy was very happy. I think it was something like 240 million dollars for the whole four ships. Did you get involved with any of the contracting discussions on that?

CHRISTIE: No.

INTERVIEWER: This is the end of tape one side one.

This is tape one, side two.

Now Bill, you mentioned in previous conversations that you were concerned about the bifurcated funnels?

CHRISTIE: I mentioned it because there was considerable discussion at a time during, I guess this must have been, during preliminary design. I can't recall if this was my time as DGMS perhaps. The aviators were concerned about the exhaust gases from the funnels in the ships. We carried out experiments in some of the existing 205, 257s that had helicopter decks, measuring the amount of gas that these fellows had to absorb while they were hovering over the deck. One of the solutions to this was the idea of splitting the funnel gases to shoot them to each side and then in theory the helicopter would land in the unoccupied gas space in the middle. Hence the bifurcated funnel that looked so unique on the original 280s. I've noticed since then on the conversion, the funnel has become a single funnel again and I don't know what the effect of this was on the airmen. I have some indication that the theory behind it was not quite as real as the result was intended to be.

INTERVIEWER: Now did you get involved with the haul-down equipment?

CHRISTIE: Yes, it was a subcontractor whose name I forget again. A lot of these developments were supported by trial installations in other ship's of the fleet, because the helicopter haul-down had trial installation in one of the 257s. The proof of the pudding therefore was in the 280 itself, but they had been tried. We didn't put a bifurcated funnel in any of the existing ships, but that is why perhaps the theory didn't result in the real thing in practice.

INTERVIEWER: Do you have anything more you would like to add before we close?

CHRISTIE: Yes. I think in looking back now thirty years after it happened, that the DDH 280 as the first major project managed procurement done by the Navy, met all of its objectives and was most successful. One key element in that success of course is the capability of the designated program manger, which in this particular case, we were uniquely fortunate. Thank you.

INTERVIEWER: That was Jock Allan.

CHRISTIE: Jock Allan

INTERVIEWER: I wish to thank you, Bill, for sharing your experiences with us. This will be recorded and put in with the CANDIB archives and we appreciate your interview.

This interview with Bill Christie on the 17th of October [2006] ends.

TRANSCRIPT ENDS