

Molly Graham: This is an oral history interview with Captain John K. Callahan, Jr. for the NOAA 50th Anniversary Oral History Project. Today's date is July 22, 2021. Captain Callahan is in Coupeville, Washington. The interviewer is Molly Graham, and I'm in Scarborough, Maine. Well, there were a number of things we talked about at the end of our last session that I just wanted to revisit quickly. But first, I wanted to make sure I had the chronology correct. So you finished up at Fort Schuyler. You worked briefly for a marine architectural firm in New York and then came to the Coast and Geodetic Survey during its transition from ESSA [Environmental Science Services Administration] to NOAA [National Oceanic and Atmospheric Administration].

John Callahan: Yes. I got recruited at the New York Field Office while I was working for M. Rosenblatt & Son [N.Y.]. When I joined, it was the Coast Survey, and I was in the ESSA Commissioned Corps.

MG: Your first assignment was a three-month tour on the *Oceanographer*.

JC: It was on the ship's construction crew. Yes, it was the *Oceanographer*. I was assigned to the *Oceanographer* while they were building her. I don't recall exactly how many months it was. I ended up at Aerojet-General shipyard in Jacksonville, Florida. It seemed to be more than three months. But at any rate, we were there while the ship was being built. I think I may have discussed with you some of the experiences I had during that particular time as a college-trained marine engineer, being able to communicate with the shipyard workers and the engineers that were building the ship. It was a very positive experience for me.

MG: Who were you reporting to? Who realized you needed to go to training for the Corps?

JC: Good question. I don't know who it was that made that decision, but I was on the *Oceanographer*, and we had commissioned it. We took the maiden voyage and went to – I guess it was Baltimore. Then from there, down to Washington, DC, to the Washington Navy Yard for the commissioning, which was done by President [Lyndon B.] Johnson, actually. When we were in Baltimore, I was informed that somebody had decided I needed to go to training class.

MG: I have in my notes that it was in 1966, but maybe I'm wrong.

JC: Yes, '66 is when I joined the Corps – January. I went down, and I think it was – the next time we get together – somewhere I've got a notification, a piece of correspondence that I came across the other day detailing when I was at training class, and that'll give us a clue what the actual dates were. Okay. My recollection is that it was the summer of '66, some somewhere in there because when I finished the training class – it might have been the Fall, actually. Because when I finished training class, I got assigned back down to the *Discoverer*, which was being built at the time. We sailed on the *Discoverer* on a trip in January. So, I'll see if I can nail those times down for you. Let me make a little note here. I reported to training class the first week of June 1966. We completed the program on September 2, 1966.

MG: Was there anything about your training experience that you wanted to talk about? Were you feeling like some of it was redundant because you had just finished at Fort Schuyler?

JC: Yes. The military aspects or the uniformed aspects were very much a repeat. I knew how to wear a uniform, and the parts about being an officer were all second nature to me. In fact, at one point, one of the instructors there told me that instead of doing whatever class we were doing for wearing uniforms and stuff, I could go work on the engines that they had at the Atlantic Marine Center. So, I worked on those small boat engines, with another marine engineer, by the way. In that particular class, they had recruited another marine engineer from Fort Schuyler, a guy named Billy Budd. He and I went down, and we worked on the engines, small boat engines, to get them ready to take the class up to Jamestown for some kind of an outing. Everybody had to learn how to drive a small boat. I'm trying to think of how many people were in our class. There were quite a few. It was one of the larger classes [inaudible], there were twenty nine people.

MG: I'm curious about the curriculum. There must have been classes in charting and hydrography.

JC: Yes, that was essentially the major portion of it. You had uniform, so that got addressed. You had the introduction, if you would, to, at the time, ESSA. That was actually a large part of it, and probably that's one of the reasons that was used to justify me going to the training class, I guess, was you got to be exposed to a lot of different areas in ESSA. You had lecturers coming in from Atmospheric Research and the Weather Service and different organizations within ESSA, and some field trips to Washington, DC, for example. We met with Dr. [Richard] White, who was the head of ESSA at the time. We got a good background as to what ESSA was like and the various disciplines that it was involved in. And then the third leg, if you will, was the hydrographic survey leg, and that was the one that they obviously had the most expertise in. It was very interesting to me because I had no concept of how to make a map. A lot of the civil engineers did, but certainly, I didn't. I found [my position] kind of strange. I was a commissioned officer by then. I had been commissioned, whereas my classmates weren't going to be commissioned until the end of the training class. That gave me seniority. So immediately, I ended up in charge of stuff. They split us into two groups, and I was in charge of one, and somebody else was in charge of the other for the hydrographic training part of it. I learned things about, for example, constructing a boat sheet, which is what you use to record data in the field when you're doing hydrographic surveying. Also, to make things as accurate as possible – if you took a round pencil and you drew it on a chart, depending on what the scale of the chart is, the width of the line itself could translate to many, many feet. In order to make sure that your lines were as thin as possible, you ended up taking a pencil tip and sanding it on both sides, so you had a chisel point because that was the only way to go. Then you had to have the letters and numbers that were going to be used to record the various depths. They had to be a certain height and a certain way. Then, of course, there was the actual fieldwork, where we took launches with surveying equipment, and we went out, and we surveyed the Elizabeth River, which [was] kind of funny. I might have told you this before, but one of my roommates, Lowell Genzlinger, was from South Dakota – what is the name of that town? It starts with a B [Burke]. At any rate, it had a population of like fourteen, and [he'd] never seen the ocean. He got put in charge – everybody had to rotate in being officer in charge of the launch, and you'd go out, and you'd have somebody watching the fathometer, somebody steering the boat – various jobs were assigned. That river, the Elizabeth River, and where we did that survey had been done by, I don't know how many, training classes before us. I think we were the 21st Class. So, a lot of

people behind us had done this survey, and it was always the same stuff. Well, in that area, there happened to be an old pier. Of course, he found the one piling that was sitting up that everybody had surveyed around. But he actually went over the darn thing and destroyed the shaft on the launch. I can remember his first day as the commander of the launch, standing there as we lifted it out of the water. You could see the shaft was bent. [laughter]. Leave it to Lowell to find the one piling everybody else had missed. Like I said, he'd never seen an ocean before. So he was not very familiar with a lot of boating stuff. That incident was funny, I thought. So, you learned how to do the chart. Some people really, really enjoyed it. I thought it was very interesting. To that extent, I learned something. I certainly learned a lot about the organization during that process. So, all in all, it was a valuable experience.

MG: ESSA was a new organization at that point and existed for five years before NOAA replaced it. Can you talk a little bit about its purview and what you learned about ESSA in those early years?

JC: Yes. Those were the banner years, in my estimation. We were created as a new agency. We were a congressional creation. [Reorg. Plan 2, 1965] There was a feeling that we were doing something new, that we were going to help the environment somehow. The people that they were recruiting for the Corps were from all sorts of disciplines; it wasn't just civil engineers, which was the bread and butter, if you will, of the old Coast and Geodetic Survey. We had people that were geographers. We had meteorologists. We had oceanographers. We had all sorts of mining engineers and all sorts of other disciplines. When you got together with these people in the training class, and you realized the breadth of experience that was coming into the Corps, it was amazing, actually – computer scientists, a whole bunch of people. We all thought that we were going to be doing something really great. It was, like I say, a brand-new organization. Dr. White, who was in charge, the Administrator, was a person of note scientifically. All of the people that were surrounding him were also people of note. So, there was this general energy or feeling that this was going to be really great, that you're looking at a world-class organization with world-class people, tops in your fields, and you're going to really do something really great, and everybody was behind it. There was no discussion of politics. There were no divisions, if you will, at least at my level. As I learned later on, there was a huge division with the senior officers in the Corps, who felt that it was a mistake to have joined up with the Weather Service. A lot of them didn't like straying from the normal civil engineer surveying type of background for commissioned officers. So, you had that group. Quite frankly, the way the old Coast and Geodetic Survey had been treated in the budget essentially gave them some credence to their argument that this was not a smart move for the Coast and Geodetic Survey. But that was at a level that was way, way beyond me. Our thing was, "This is really great. We're special. We're absolutely special, and we're going to do special stuff." So that was the whole thing.

MG: I read somewhere that it was the first government agency with the word "environmental" in it. What did that mean to you and the people you were working with?

JC: Exactly what I said. We thought we were going to do something great for the planet. You just said that [and] I realized that the word "environment" in Environmental Science Services Administration was such a big deal. Our nation was looking at something. One of the projects

that we did was BOMEX [Barbados Oceanographic and Meteorological Experiment]. BOMEX was looking at the depths of the ocean up to the atmosphere and tying it all together. That's a massive project. I mean, when I say massive, I'm talking about the interchange at sea level of energy, weather, what's going on underneath the sea level. Trying to tie all that together – I seem to remember that the data we were collecting – and when I said collecting, we were doing it at different levels. We did ship work below and [for] the surface, we did weather observations at the surface. We had airplanes flying over. They had a particular many square miles they were looking at. We're collecting all of this data. My recollection is that it was going to take years and years of the fastest possible computers that were in existence at the time to process this stuff. When you think about that, particularly as a 22-year-old kid that is embarking on a career, this is amazing stuff. This makes you proud. I'm part of that.

MG: I wanted to ask you more about BOMEX. That was when you were back on the *Oceanographer* for a second tour.

JC: No, my second tour on the *Oceanographer* was many years later when I was a senior guy.

MG: Were you in Barbados? What was your involvement in BOMEX?

JC: As I finished my tour aboard the *Discoverer* as a lieutenant JG [junior grade] – I guess I was at the time. That's where we got involved in BOMEX. That was when I got transferred off the *Discoverer*, and I ended up going back to BOMEX to work on the engines and the engine CERC [Central Engine Room Control] systems, on the *Discoverer*. The actual [BOMEX] data taking and stuff that was going on, I missed out on most of that. I got to work on the engines as a “consultant”, but by that time, I had gotten off the ship.

MG: I want to go back a little to hear more about your first tour on the *Discoverer*. I think last time you mentioned going to Cape Hatteras.

JC: Yes, on the *Discoverer*. I went to the *Oceanographer* [and] stayed with her until she completed her maiden voyage and was being outfitted in Baltimore. In June I went to training class and temporarily returned to the *Oceanographer* to participate in her commissioning on June 13, 1966. After training class I was assigned to the *Discoverer* and came back to Jacksonville to help build her. Then the *Discoverer* sailed on her maiden voyage, and sailed up to Baltimore to get the same computers [as the *Oceanographer*] and such installed in Baltimore. On the way up, we went past – on both trips, the *Oceanographer* and the *Discoverer* – we went past Cape Hatteras. Two things I recall. One of them was going up—the weather got a little rough; it wasn't a hurricane or anything, but it was dicey. They had, at the time, an aloft conning station, which is a little room, if you will, at the top of the foremast, and it had all of the controls in it that you use or that you needed to use to maneuver the ship. This was something that the Maritime Administration had put onto the *Oceanographer* and *Discoverer* so that they could work in ice fields and also maneuver when you wanted 360-degree visibility. So, in a way, it was kind of an experiment. In fact, there were a lot of things that were on the *Oceanographer* and *Discoverer* that were experiments by the Maritime Administration. At any rate, to get to the aloft conning station, you had to crawl up inside the foremast, and then it had a little hatchway, if you will, in the floor of the aloft conning station. You climbed up into the aloft conning station, and you put

the hatch down, and then you had all the controls you needed to drive the ship. You had a little heater up there, communications, everything you needed. I wanted to see what it was like in the aloft conning during rough weather. To get up there was kind of funny. You grab ahold of the ladder. When the ship went up – it was pitching up and down- you and your weight got pushed down. So you'd hold on to the ladder for dear life and just hold on. Then, when the ship came down, you were close to being weightless and you were able to climb up very quickly. Then you'd wait for the next evolution. I got there, and the heat was on in this thing. That [the aloft con] was the part of the ship that was subject to the most motion. It was going left and right, and it was going left and right as well as going up and down. I sat up there for a while, I looked around, satisfied myself – it was a great view – and then I started to feel a little funny. I decided, "Time to leave." So down I went, and I went right to the engine room, which was least affected by the motion and sat there for a while until I got my wits back about me. So that was about the closest I ever came to getting seasick, by the way.

The other thing that happened on the trip up involved the computer system on the *Oceanographer* and *Discoverer* were new – a UNIVAC 1218. They were purchased by the government and stuck in a warehouse. There were delays in the building of the ships. By the time they were installed on the ship, they had been sitting in a warehouse that was not air-conditioned or temperature-controlled or any of that. They had some problems that had developed from humidity and moisture, etc. In fact, my understanding is that the original 1218 computers had a mercury-wetted relay so that when it tilted a certain way, or when you did something, a little relay would tilt, and a piece of mercury would make contact, and things would happen. Well, on a ship, obviously, that doesn't work very well because the ship is rolling back and forth. It's kind of like the relays that you find in a lot of homes for temperature control. Anyway, they realized that they had to do something about that. They took these pins, and they had them wire wrapped, and that was supposed to be the solution to this mercury-wetted relay problem. But those things [computers], because they had been in an environment that wasn't controlled, also had some problems like rust. To make a long story short, there were a lot of problems getting those computers to run and to keep them running. At one point, I believe it was GE [General Electric Company] – again, this is a long time ago, they assigned a person, a civilian, to ride with the ship just to keep the computers going and to teach our computer officer what to look for and what to do. We had a couple of officers that were assigned to the computers and the data plotters in the oceanographic lab. Sebastian Sora was the computer guy. Anyway, this guy was George (Valukonis), and he was a civilian. He lived up in officers' quarters, and he was always down working on a computer to make sure that it ran. He, unfortunately, had some kind of a heart attack on that trip up, and they immediately sent out a radio message to all ships that were in the area for a doctor – "We need medical help." As I recall, Joe Dropp, one of the officers, and somebody else [Paul Larsen] was doing CPR [cardiopulmonary resuscitation] on George. On the bridge, they got a radio call, saying, "This is the United States Navy. Identify yourself." We said, "We're the ESSA ship *Discoverer*." Then, a little silence went by. Then, back again: "Identify yourself." We did it again. Again, "Identify yourself." Now the Captain (Bill Deane – I heard this secondhand-, was standing on the bridge listening to this communication. He got on the phone. [laughter] "We are the Coast and Geodetic Survey Ship *Discoverer*. We're en route to blah, blah, blah. We need medical assistance." Then, the next thing we know, on the starboard side – because I'd come out of the engine room at that point. I heard what was going on, and I was standing on the starboard side of the ship- Then, all of a

sudden, man, the whole sky lit up; it was an aircraft carrier and its escorts. These guys were out doing their maneuvers in silence and in darkness. All of a sudden, this whole city lights up. It was really impressive. We got a message on the bridge to be prepared to be boarded. They sent over an armed party with a doctor. They came on board, and the doctor went to the oceanographic lab, where George was, and examined him while the other [Navy] people went up to the bridge and talked to the Captain. George was dead. The doctor pronounced him dead. The people who had gone to the bridge were satisfied that we were not a spy ship. They [went] back into their landing craft and over to wherever they were coming from. I don't know whether it was the carrier. I think it was one of the escort ships. And they took off. I found out later on that they didn't have any information in *Jane's Fighting Ships* regarding who we were. If you look at the profile of our ships, we look very strange, particularly all these antennas and stuff. The Navy apparently didn't have any information that we were who we were, and thankfully, they got that corrected. So those are two recollections for that trip up to Baltimore. When we got to Baltimore, we spent some time up there. That's where an awful lot of the junior officers got introduced to the things that Baltimore had to offer [laughter], including a lot of strip shows and all sorts of stuff. In fact, one of the guys, who shall remain nameless, met some lady in a bar, forgot about it, and forgot that he had invited her to the ship the next day. She showed up and wanted to see this guy, and he didn't even remember. We had to do some fast talking to convince her that she didn't want to pursue this and she should leave.

MG: What do you make of that miscommunication with the other ship? Do you think the ESSA ships just weren't well known at the time, or were these Cold War concerns about spy ships?

JC: Yes. First of all, [regarding] the first part you raised. Nobody knows who we are. We had a total fleet of sixteen vessels or so. I can remember a few times that we would go to places, and people would go, "Oh, Coast and Geodetic Survey," or something like that. Most of the time, it was "Who the hell are you guys?" So yes, for sure, unless you were some really experienced Navy guy who worked in an area where we were working, they wouldn't know who we are. Like I said, we were a brand-new ship, and we had all sorts of scientific gear. In fact, we had a pinging device on the bridge. It was a combination – it was sonar, it had a video display of [sonar], and it had sound. You could look for stuff, like fish, for example, as well as the depth of water. You turned this thing on, and it would send out a beam. Then you'd hear this [imitates sonar ping], and you'd hear it on the bridge. It was really cool. Well, we turned that on one time, and we got pinged back. Apparently, submarines don't like to be pinged like that. [laughter] So that was kind of interesting that there was a submarine in the area, and we hit it with our sonar beam, and they didn't particularly like it. It's not surprising that the Navy would not have known anything about us. What they would have done –they would have consulted whatever books that they had to determine what we were, little books with outlines, like *Jane's Fighting Ships* that has an outline of the silhouette of the ship and blah, blah, blah. They would have consulted that, and we weren't in there yet. It hadn't been updated to reflect that. Now, I don't know whether or not the information had been sent to *Jane's*, and it hadn't reached the Navy group that was operating it that evening, but not surprising that they wouldn't know who the hell we were. And there was concern, as I recall, on a national level that there were a lot of Russian and Russian-connected vessels operating off the coast, disguised as fishing boats or whatever. So yes, I can understand why they would be a little bit concerned about who are these guys and what are they doing?

MG: Was this the tour you were on that brought you to the Gulf of Maine?

JC: Gulf of Maine? I'm trying to recall what we have done in the Gulf of Maine. The only thing I remember about the Gulf of Maine – well, wait a minute. Two things. When I did my lieutenant commander's exam, you had to draw up a survey for Penobscot Bay, Maine. I became very familiar with that particular area because of that test that I had to take to become a lieutenant commander. The other thing was the *Discoverer* went up to Expo '67. In Expo '67, we were part of the American exhibit, which is why I learned the French word *engine* for engine. That was the only thing I could remember in French. As tourists would come through, I would point to the engine room where the engines were – "*Engine, engine.*" I have a coin, by the way – we had minted coins. I got put in charge of the ship's store, which didn't exist. So I created this fictional company called Ship's Store, and I sold "stock" to the Captain, the Chief Engineer, and anybody else who wanted to buy it with a particular rate of interest that was supposed to be for like five percent guaranteed, and we'd have your money back in a year. With that money, we purchased toothpaste, deodorant, T-shirts, and the kinds of stuff that you would normally have in a ship store so that the crew can buy these little sundry items. Most ship's stores will also have some souvenir kind of stuff in it, like a mug with the ship's name on it, that kind of stuff. We set up the Ship's Store, and part of the Ship's Store was the barbershop. The reason I sold the stock in the first place was not only to get the sundries, but we also wanted to get a soda machine for the quarterdeck area so that everybody could get sodas. [I] started that process while we were in Jacksonville, Florida. The Coca-Cola company said that they would provide us – while we were waiting to get the machine that we were going to buy-, they would provide us with a machine, and they would stick it on the quarterdeck, and they would keep it replenished. Shipyard workmen would come on board, and the crew would come on board, and they'd throw their little nickels into the coke machine. We started making money. You could make almost two-hundred bucks a month, which was big bucks. So we had a candy machine, and we had the coke machine. When we got ready to go off on our trip, we told the Coca-Cola company that we needed to remove it [the Coke machine] from the ship. They put it on the pier next to the gangway so that people going on or off the ship could still buy Coke. Why am I telling you this? We left finally on a trip. The major trip that we took was after Expo '67, apparently, and we had gone from Expo '67 down to Miami. This is interesting. Some of this is coming back right now. From Miami, we took off on our first trip, which was to prove continental drift. So we went to South America, Tristan da Cunha, Africa, and then back to Miami. [laughter] Well, when we took off for this trip to prove or disprove continental drift, the Coca-Cola machine company didn't remove the machine, and [it] sat on the pier. The workmen were using it and buying their cokes for twenty-five cents, I think it was. When we got to Africa, I got a check in the mail addressed to the ship's service officer, which was the profit from the soda machine. It became a "Ship's Store Co, international". We were making money even when we weren't there [Jacksonville]. That was a lot of fun. Anyway, after establishing the Ship's Store on the way to Expo '67, [we] decided, "Why not make some money here?" We had these coins, little coins with Expo '67 on one side and the ESSA Ship *Discoverer* on the other, and we had them embossed in plastic key rings, ashtrays, or just the coin itself. We were going to sell them to the tourists that came onboard to view the ship at Expo '67. [We] set up a little table, and as they [the tourists] got off, if they wanted a souvenir of the ship, we'd sell it to them. That money would go to the Ship Store. We bought what we thought was going to be a sufficient number.

The executive officer at the time, when he found out what I was doing, told me – we had set up a table and started selling the stuff as people were leaving the ship- He came to me and said, “You’re not allowed to do that. You can’t do that.” So, we had to shut down. So that particular day, I’m thinking, “What am I going to do with all of these coins?” The next day, I guess the Captain had talked to him the XO] and said, “They can do that,” and so we did it. At the end of that particular visit, we– given the volume, we sold every day – if he had not stopped us that one day, we would have sold out. As it was, we had marked things up well over fifty percent. All I had to do was sell half of them, and we made our money back. We sold eighty or ninety percent of them. We made a huge profit for the Ship’s Store. We had a number of these things leftover, which I started offering as prizes to various contests that we had on the ship, like going from port to port, having [inaudible] the propeller, what would be the closest number. If you win, you get a ten-dollar certificate to buy stuff in the Ship’s Store and a coin. [laughter] Up until we started making money, everybody was happy with leaving us alone. As soon as we started making money, then people wanted in. They wanted a committee. So, we had a Ship’s Store committee with the crew and officers and all sorts of administrative stuff. I remember one of the first meetings that they had, one of the people at the meeting was complaining about wasting our money on buying these coins and stuff saying – “Look at this stock that we have. What a waste.” We told him we had already made our money and a huge profit. These were just things that we were giving away. So that was interesting. It was very interesting. In fact, if you don’t mind me continuing with this thing – when we were in Miami, which is where we docked after Expo ’67, we came down to Miami, went through the Gulf, right to the Gregg Seamount project and then all the way down to Miami. The passenger ship from – I’m trying to think what the line was. It was Norwegian American or something. They were docked in front of us at Dodge Island. At the end of the workday, we put our dress whites on, the junior officers, and we went to see if we couldn’t get on one of the passenger ships because they had a bar, and we had uniforms, and there were a lot of lovely young ladies running around. At any rate, I met a woman who stocked their stores on these big passenger ships, and a lot of it was on consignment. I said, “Is there any way that we can get connected with people that consign these goods?” So, she made an entrée. a couple of the vendors visited our ship. I told them that we had a little – I showed them the store that we had. “Would you like to consign some stuff like you do for the passenger ships, like watches and electric razors and that kind of stuff, some jewelry?” They [said], “Oh, yeah, not a problem.” So, we ended up with a huge stock in the Ship’s Store. We would sell something, and then we would reimburse the chandler, I guess that is what you’d call them. We took off on the – and I had told them earlier that we were not a passenger ship, that we took off on projects, and we could be gone for extended periods. I don’t think that sunk in because when we got to Africa, in that same batch of mail that I got a check for the soda machine, I got an inquiry from them going, “When are you going to send us some money or return these goods?” [laughter] I said, “In a couple of months when we return.” Anyway, that was the Ship’s Store stuff. Meanwhile, Expo ’67 – we’re going to do a project; I think it was called the Gregg Seamount project. They were going to take samples off the mountain. They were going to do some other oceanographic stuff. Again, I was in the engine room, so not privy to why they were doing all this stuff. I do remember going into Boston at one point because they wanted to take the press out, and Captain Deane, who was the commanding officer at the time – when we came back into Boston, the fog had set in, and the pilots wouldn’t come out. He said, “The hell with that. We’ve got radar.” He took the ship in. It was my first experience in recognizing, and later on, finding out that very rarely did Coast Survey officers use pilots.

Sometimes they bring them on board as advisors and stuff, but they're basically handled their own ships, which was kind of neat. So back to the Gregg Seamount. I'm in the engine room, and Ted Wyzewski is on the bridge. He tells me – calls me up, as was the custom, to tell me that we were going to be idling for a while, so go ahead and do what you need to do [with the engines]. I said, "Well, how long?" He said, "Well, I don't know." I said, "Well, give me a callback. Right now, I'll keep things running. But if it's going to be an extended period of time, I'll need to shut some engines down so they don't get all screwed up with oil and we end up with huge clouds of black smoke when you light them off again." Diesel engines should be run at speed; you don't want to idle those things. It's not good for the engine. Anyway, I didn't hear from him for a while, and I called him back. "Hey, Ted, what's going on?" He said, "We lost the mountain." I said, "What are you talking about?" He said "We lost the mountain. We found the Gregg Seamount, and then they were doing some stuff, and we drifted it off. Now we're going around very slowly trying to figure out where that mountain is." "Okay." [Shortly thereafter they found it again] In one of the operations they throw these samplers off the side; they're supposed to go down in a tube that's weighted, and sink into the bottom, and then there's a flotation device on it that releases and pulls up this sample tube up to the surface. We kept throwing these things[samplers] down, and whatever the composition of the material was down below – these things were just sticking there and not coming back up again. Finally, I think they got one or two up [to the surface], and the Captain made a very quick decision to go get it. I think they ran one over. It was not very successful. The other thing they were going to do was they wanted to deploy a deep-sea tide gauge, which was in a metal cradle. It looked like something you'd put a basketball in. The actual tide gauge itself was spherical, and it was held in place by some shotgun shells – I can't think of the name right now – little latches if you will. The idea was you throw this over the side, it sits on the bottom, it records data for like six months or whatever, and then they use an electronic signal to go ahead and fire off these shotgun shells, which releases the top of this cage and then the tide gauge comes up, and you can retrieve it from the surface and get the data. Well, somebody hit the wrong switch as they were moving the thing in position to drop it over to the side. All the shotgun shells went off – *bang, bang, bang*. So that [operation] got scrapped. Then they put out an instrument buoy, a big, big thing. It had to be six, seven, eight, maybe ten feet in diameter, and whoever calculated the depth of water was probably a little off. What happened was there were weights. They had the thing [buoy] tied to three lines, which draped down under the buoy, and then you had the line that was attached to the weight. They threw the thing over, and it looked great. It hit the water, and things [the weights]started to sink. "Oh, that's really cool." Then, all of a sudden, the buoy just took an angle into the current because there was too much depth [of water] under the buoy, and it was just pulling one side of the buoy down. All of a sudden, down went the buoy – disappeared. [laughter]. Anyway, we ended up going sailing to our new homeport, Miami, and had onboard a deputy Administrator from ESSA. I forget what his name was, although I did get assigned as his aide-de-camp. I was in the engine room when they had a meeting at lunch, and it was decided – they were looking for a volunteer to be this guy's aide-de-camp. [laughter] I wasn't there, so I got volunteered on the basis that, as an engineer, I was not on deck and therefore, the little oil spots that once in a while came out of the smokestack and stained some of the white uniforms of the other people were not present on my uniform. So, therefore, I ended up as this guy's aide. I attended the press conference that they gave. It was my first exposure to "spin" if you will. Instead of going over all of the things that went wrong, it was, "We learned a lot on this trip."

[laughter] Yeah, we did learn a lot. We didn't get much data, but we learned a lot about what not to do.

MG: Wasn't it the first seamount that was explored in this way? So it must have all been a new experience.

JC: It was. It was. Yes. To that extent, his comment was accurate. We did learn a lot, particularly as to whether these instruments that they were using were going to do the job or not. But from my standpoint, as an engineer, Lieutenant, JG in the engine room, that was way beyond me. To me, it was like, "Why didn't this thing work? That's ridiculous." But from a larger standpoint, yes, I think probably it's accurate that we learned a lot.

MG: Where is the Gregg Seamount?

JC: That's a good question. Off the Gulf of Maine on the Eastern Seaboard someplace. To tell you the truth, I really don't know that. I'd have to go look that up now. Again, being in the engine room at that time and not being part of the deck crew and all that, where we were was not paramount in my mind and the geographic locations of things – just right over my head. [Note by JKC: the Gregg Seamount is 440 miles east of Cape Cod]

MG: Can you say more about the '67 Expo and what it was? Who were the vendors there? What was the purpose of that event?

JC: It was international. We were part of the American exhibit. They had these things periodically throughout various countries. So it was, if you will, a celebration of the various countries and their technology on display. So that's what it was about. There were a number of international participants. The American exhibit, which I think was a big geodesic dome, if I recall correctly, had various participants. We were there for a week, and then we left, and somebody else would come in. There was the physical presence of the United States area [the geodesic dome], and then there were various exhibitors from the United States, that would come in.

MG: I have in my notes that the *Discoverer* was working on research expeditions on the Blake Plateau, investigating the status of manganese nodules?

JC: That was right after the September gravity project in the Gulf of Maine. Yes, we went out in October, and we were looking to determine the density – when I say density, how many there were in a particular area. Then we wanted to grab some and dissect them, if you will, to find out what was in them, and what the quality of the manganese nodule contents were. We used a couple of different methods to dredge the bottom, if you will, and pull up these nodules. We went back and forth, and threw things in the water, and dragged, and got nothing. Then we would hit an area where there were some manganese nodules. We'd get samples of those things and then continue on to another area to see if we could find more of a concentration. They were very, very interesting. They would cut these things open to see what they looked like inside to determine the amount of iron and what other composition – manganese obviously – was in them.

The idea was to find out whether or not they were there in sufficient numbers to justify some kind of a commercial entity coming in and mining these things.

MG: You were on that expedition?

JC: Yes.

MG: From there, is that when you went to the west coast of Africa?

JC: Yes. Like I said, we left Miami [January 4, 1968]. We went down to Recife, Brazil. Then we started to cross the Southern Atlantic, stopping in Tristan da Cunha. On the way down, we took the Governor and his wife – British subjects – and their child to Tristan da Cunha. That was an operation that was really, really amazing. We not only dropped off the governor and his wife and kid, who was a real terror, as you can imagine, a young kid, teenage boy – a little less than a teenage boy – being confined to a three-hundred-foot ship. What are you going to do? The parents were very upper crust, didn't like the kid associating with the crew members and stuff. So, at any rate, we dropped them off, and we dropped off a satellite triangulation party, complete with all of their gear. While we were there, we did a little hydrographic surveying around the island. The island itself didn't actually have a harbor. It had a little hook made out of rock. when you came around [in a small boat] to get in there, and you're facing a big rock. Then you had to turn right very quickly and get into this little protected area if you could. That is what you had to do. We only had a few days. We were supposed to drop off all of this equipment. We even brought a couple of barges with us, and we put the barges in the water, lashed them together, and put a lot of the equipment on it. I can remember Lt. Merritt Walter, who was one of the deck officers, on the back of these things [barges] with large outboard motors, trying to get them in. It was tricky. I got put in charge of the small boats. That was my first experience of being in charge of something like that. Within the first day, I'd wrecked all of them. When I say wrecked all of them – they weren't working anymore, and it was all the same stuff. They would come in [to the harbor]; they'd make this turn into this little harbor area, and then the tide would go out. These were Bertrams [boats], which had an outboard drive. Anyway, the boats would bottom out – we had to operate almost twenty-four hours a day – not twenty-four hours because we didn't do it in the dark. But from sunup to sundown, we had to be operating because we only had so much time. Weather there was very, very bad, or could be very, very bad. If you had any kind of weather window to operate, you needed to do it very quickly. The boats would bottom out in this little area and get destroyed, we'd tow them back to the ship, put them up in the davits, and we'd go to work on them to try and make them work. Like I said, we were pressed for time. So, we made a deal with the natives to use their boats because they [the natives] were very, very familiar with getting in and out of the harbor. They had these large wooden vessels that they used, which looked like giant rowboats really. I think they were double-enders, though, and they used those for lobster fishing. That was the entire industry for Tristan da Cunha, which, by the way, is a live volcano. They would go out and disappear over the horizon in these little boats and then come back at night full of lobsters. They would can them or process them in a little facility that they had there. It was really interesting because you'd go into the facility, and you'd see the same five or six names – A. Smith, B. Smith, D. Smith – all intermarried families. A lot of doctors would visit this island to study the results of being intermarried. Anyway, we asked those guys for – we contracted with them, if you will, to use some of their boats so we

could continue the process of getting the material ashore while we repaired our own boats. So that was quite an operation. Meanwhile, one or two other launches that we did have that were operational were doing some hydrographic work around the island to make a map. We got all that stuff ashore finally – wow. I just remembered we tied up our boats to a beam that was attached to the side of the ship, and it would swing out and provide a beam to suspend ropes from. Then you could tie the boats onto [the lines], so you didn't have to put them up into the chocks [davits] every night. I was part of the emergency boat crew. We were bringing the boats back, and we're trying to get them up onto the chocks, and the davits that we were using had these two-hundred-pound falls at the end of them. They were poorly designed. When you're on a boat, and it's going up and down three or four feet, maybe six feet in the ocean, if you have a two-hundred-pound metal davit that you're trying to maneuver to hook on to the aft part of the boat, it can be very, very stressful, number one, and you have to have a lot of strength to do that. If the boat comes up fast enough, and the davit is down far enough, it'll actually tilt over, which is exactly what happened, and one of the guys took part of his finger off in my crew, by the way. We backed the boat away from the davits because he and I had been sitting up in front, and the boat lurched up, and this davit came down and went to his side. Otherwise, it would [have been] my hand. We backed away, and I saw what had happened. We had heard somebody else had already been injured in that boat with the davits – didn't break the arm but injured his arm. I told the executive officer, "We can't put these things on these davits. We got to put them on the side [boat boom]," which is what he refused to do in the first place. Well finally, he agreed that yes, we could do that. We got the people out that were injured, and then came around to the side, tied the boats up to the boat boom. I went up to the sickbay to see what the condition was of my buddy; the guy who was in my crew. The very tip of his finger had been taken off. They did whatever they were [medically] going to do. We'd been out all day, and the guy who was in charge of the medical facility said, "Oh, you guys need some medicine for exposure" – a shot of whiskey. I had been trained that you never drink aboard a ship, right? I figured, "Well, what the hell?" So, he gave us one shot each. We took down the shot. It was actually neat to feel that warmth going through your chest, having been out in the water all day and all that stuff. I went up to bed. I'm on the emergency boat crew. They always assign an engineer to the boat crew. So, I'm on the emergency boat crew. I lay down in bed, and all of a sudden, the lights go on, and somebody is yelling, "Come on, come on. You're late. You're late." I figured, "My god, it must be seven o'clock in the morning. They're going to be putting the boats over. We are continuing this operation." It wasn't seven o'clock in the morning. It was eleven o'clock or twelve o'clock at night. I had been asleep for an hour. "What the hell's going on?" "The emergency boat's going over." The next thing I know, I'm standing in the emergency boat, and it's being lowered over the side. They had these long ropes essentially that are tied to the top, and you hold the rope as you go down. In case something happens with the boat, you've got something to hold on to. I'm thinking to myself, "My god, I had one stinking drink, and next thing you know, I'm on an emergency boat." One of the boats that had been put on the boom has drifted away, and we had to go get it before it disappeared over the horizon. So, that was my one foray into having a drink aboard a vessel. No more. Anyway, we got that project pretty well wrapped up. We did get to go ashore one day, it was Queen's Day. They had a big celebration on Queen's Day, and they had a soccer game that they wanted us to compete in. The officers and some of the crew took on the islanders. The islanders, by the way, were an interesting bunch. The volcano had erupted, and they moved these people back to England. They didn't like it there. They didn't have any way of making a living because they were fishermen

essentially. They didn't like the fact that the kids were running around and becoming typical British kids with [long] hair and music and all sorts of stuff. So, they wanted to go back to the island. They petitioned the government; the government put them back on the island. I think there were two or three hundred of them that were there. Like I said, a lot of families intermarried, and the only factory they had was the processing plant for lobster. Most of the rock lobster, by the way, that you get in the store is from Tristan da Cunha, not South Africa. Anyway, they had on the island two-hundred-and-some-odd people; they literally would shut the power off at ten o'clock at night. I mean, literally, they just shut off the power. The only way they got supplies was by – they didn't have an airfield, so they get [supplies] by ocean. It was a big deal. One guy was a local hero because the mailboat came in and overturned on the way in, and he swam out and rescued a bunch of the mail bags and stuff. A desolate existence. Queen's Day was a big deal, and they were going to really celebrate. So, they played us in a soccer game. We had no idea how to play soccer. We had one or two people that had played before, nobody else. We held our own for the first half because we'd all run for the ball. Our goalie was a former football player from Tulane University who had tried out for the Chicago Bears as a punter. When the ball would get to him, he'd punt it, and it'd go all the way down the other end of the field to give us a little breather. That worked for a while. Then, conditioning just showed up, and they killed us. It was amazing. Then they had a dance that night, which was very interesting because in their society, everybody had a role, if you would, and they had a prostitute. She was not looked upon with any disdain. In fact, she was a revered member of the community because her job was to keep all of the young men away from the other people's wives. From a societal standpoint, it seemed to work. At the dance that night, they had this tradition, where the Governor and his wife would dance the first dance. Then, she would take a little pillow, and she would go to a man, put the pillow down, kneel down, put her hands up, and he would raise her up. Then he would dance with her. Then he would take the pillow to a woman, and they do this whole thing over again until everybody danced. She [the Governor's wife] took the pillow and brought it to the Captain. He danced with her, and then he took the pillow, looked around, saw what he thought was a very good-looking woman, put the pillow in front of her, and he danced. Later on, he found out she was the prostitute. [laughter] I digress.

MG: I hesitate to ask, but how did he find out she was the prostitute?

JC: People told him. [laughter] A lot of us were there, and somebody knew.

MG: Can you tell me more about the work in Africa? Was that being done under the direction of Robert Dietz?

JC: Yes, it was. He was the chief scientist. My understanding is, later on, that the samples that we took on the African coast, as well as the samples that we got from South America, were evidence for the proposition that he had put forth about continental drift. So, after Tristan Da Cunha we sailed to Dakar, Senegal then to Abidjan, Ivory Coast and back to Dakar, Senegal. We did sampling along that whole area.

MG: Were you aware that this research was going on and that it was fairly significant for its time?

JC: Yes. Yes, we were. It didn't make any difference what your job was as a commissioned officer at that time. Like I said, there was this feeling that we were all involved in something that was really great. So whatever science was going on aboard the ship, in your spare time – for me, coming out of the engine room, you walked around to the various scientists doing their stuff in the labs or crew members doing stuff in labs, and they'd be more than willing to talk to you about what they're doing and how they're doing it and why they're doing it. It was all new, and it was all really interesting stuff. I've heard from friends of mine that were in the Merchant Marine that when you were on trips you'd stand your watch, you go to your room, and you would maybe play cards with somebody or something like that, but there was nothing mentally stimulating going on, really, on those ships. But when you're doing the kinds of research we were doing, it's like, "Wow, this is really amazing." I mean, you could look at a microscope at a sample and see all these little things that lived a million years ago. You wouldn't have known what you were looking at until somebody explained it to you. Like I said, they were more than willing to talk a lot about their research and what they were doing. They were not standoffish at all. In fact, the officers were usually paired off with scientists as roommates. There were two bunks in a room, and you could very easily end up with a scientist rooming with you for a particular trip, in which case you'd learn all about whatever it was they were doing.

MG: Was this your last assignment on the *Discoverer* before you went back to school?

JC: Yes and no. It was during the *Discoverer's* return trip from Africa that I got switched to the deck and started to train as a deck officer under the watchful eyes of Merritt Walter and Otto Steffin. At any rate, I trained as a deck officer and became a fully qualified officer of the deck. Then, when I left the *Discoverer*, I first went to – yes, I went to the ship facility group in Washington, DC, working for Admiral [Allen L.] Powell. At the time, he was a Captain. I let him know that I wanted to go to law school. Meanwhile, we were looking – one of the jobs I was supposed to be doing was looking at the automated engine rooms. I had served on two ships with them and been there when they built them and everything. So, the question is, are they working? What can be done to improve them? [There were] huge personnel issues with what I call "hawse pipe" engineers getting them to use the stuff that had been provided. They were used to doing it their own way. If something didn't work immediately, then it was like "it's no good, so let's not do anything with it". In defense of these of these engineers, there were a lot of problems with the instrumentation. I can remember one time where an engine shut down, and as it turned out, it was a low lube oil pressure. I had run down to the engine to find out – because the low lube oil alarm went off, and we immediately shut that thing down because you'd destroy an engine without lubricating oil. What I found out was that there's a little gauge that measures lube oil pressure, and the line going from the gauge to the sensor was a solid piece of copper. The sensor was located on a catwalk surrounding the engine. Well, when running the engine is vibrating, and the catwalk is not, right? So, over a period of time, that connection loosened up, and all of a sudden, it gave away, and all of the oil leaked out of the pressure gauge, not the engine, giving a false reading that there was no lube oil in the engine. First of all, you shouldn't have connected the stuff on the engine with the stuff on a stationary area with something solid. Use a piece of flexible tubing. Those kinds of things – any engineer that has worked on vessels would know that. Unfortunately, some of the people that designed this stuff, I think, were aeronautical engineers, no maritime experience whatsoever. We had a lot of aircraft sensors on these engines that were not working very well. I was supposed to be involved in fixing that. In

fact, I went back to the *Discoverer* as a member of the facilities group to work on the engines in BOMEX in Barbados. While I was in the facilities group I was going to leave the Corps because they wouldn't support me going to law school when Captain Powell suggested "why don't I go to law school at night"? I had been accepted to Fordham University in New York. They would assign me to the New York field office, and I would be assigned there. Then, I would work at the Maritime College at Fort Schuyler with some of my old professors to go through the CERC system and implement a system for the maintenance of engines. So basically, the airlines had justified a computer for each plane based on the fact that if they had enough data on an airplane engine, they could predict when maintenance would be necessary. They could take the airplane engine offline, do the maintenance without any interruption of service. So, we were looking at using that theory and that methodology. We had a lot of instrumentation on the engines as it was. So the question was, what else do we need, and what information instrumentation needs to be replaced to give us the baseline data that we would need to be able to predict when you would have to do maintenance on an engine, as opposed to having a crap out on you. Anyway, regarding the CERC system – it's called a deviation concept. So, when the readings deviate from the norm at a certain slope, then you know it's time to pull this thing and do maintenance on it. I was working on that and then going to law school at night with the idea that I would then find out if I liked law school. If not, fine. If I did like it, then the Corps would have another conversation with me about my career. So, I worked downtown New York at the New York field office. I did recruiting stuff. I did some office work. Then I would periodically go up to Fort Schuyler and confer with the professor that I was working with up there. My day would be: get up at six o'clock in the morning, get a seven o'clock bus into New York, take the subway down to the New York field office, which by the way, is on the corner where the [World] Trade Center was being built at the time. Then I would, at the end of the workday, take the subway up to Columbus Circle to Fordham Law School, which is at Lincoln Center, and then finish class around nine or 9:30. Then another hour and a half back to New Jersey and start over again. So that was interesting. As it turns out, I did like law. I finished that CERC project; actually, I got an award for that. They transferred me back down to Washington, DC, again, with the ship facilities group – excuse me, not from the ship's facilities group. They transferred me to the Office of the Director of the Coast and Geodetic Survey. I was able to transfer my credits from Fordham to Catholic University. I was allowed to go there at night. Once in a while, if there was a course that was relevant to ESSA, like international law, for example, they would pay for that, and they would allow me to go during the day for that course. Other than that, I paid for it myself with whatever benefits I had from the GI Bill college stuff. During the day, I was working, for example, as part of the team delineating the seaward boundaries of the United States. Because I was doing that, I could justify taking an international law course. They paid for that, so that was nice. Where were we?

MG: I have a number of follow-up questions. It seemed you were incredibly skilled in engineering and useful to the Corps in your capacity as an engineer. I was going to ask if they were supportive of your pursuing a law degree, but it seems like you worked out a compromise.

JC: Yes. They were not supportive of having a commissioned officer lawyer. When I say they weren't supportive – I didn't see any support from anybody. In fact, it was a resounding "NO". It was Captain Powell, who – and he had a couple of close friends that were supportive of keeping me in the Corps because I had done a good job as an engineer. I had broken the ice; I was the first. They wanted that [engineering] program to work. He obviously liked what I did.

He was supportive. There was another guy named Hugh Dolan, and he was a civilian. He was a civilian in the Office of the General Counsel. I remember my father actually coming down, and we had lunch with Hugh Dolan. Hugh was enthralled with a guy named Aaron Shalowitz, who wrote a couple of volumes on Shore and Sea boundaries that are quoted by the Supreme Court as an authority. Hugh was, in fact, the [Dept. of Commerce] delegate to the commission on drawing international boundary lines. I was working with him. I was his assistant or whatever. He knew I wanted to go to law school. Anyway, he thought that it would be great to have a commissioned officer lawyer to take over for Shalowitz, who had retired. He [Shalowitz] was an old man and had retired. He was very much in favor of the Commissioned Corps getting a lawyer. When I finished that first year in law school, when I came back and worked in Rockville, again, he was a huge supporter. In fact, I ended up working with him on a number of issues as I continued in law school. They [the Corps] were not in favor of it. I'm talking about the senior Corps guys. But then, when I started – particularly when I started to actually contribute to stuff – like we were not eligible for veterans' benefits, and I spearheaded that piece of legislation to get that corrected and they said, "Well, wait a minute. That's not too bad having a lawyer do that." They had a couple of groundings – they had one grounding in particular, [where] the NOAA ship *Researcher* – I think it was the *Researcher* – grounded in Miami. The captain of the ship wrote a report basically saying that he looked over everything and there was nothing wrong; nobody did anything wrong. In fact, if he had to do it over again, he'd do it the same way. Well, that particular report went to the Associate Administrator, a guy named Jack Townsend. Townsend really went through the roof on that one. He said, "Are you kidding me? He [the Captain] takes a brand-new ship, does thousands of dollars worth of damage [to] it, and he tells me he'd do exactly the same thing again? This is bullshit." He was very critical of the fact that the investigation that had been done was done by the Captain of the port down there [Miami]; I think it was Captain Keith at the time. He wanted a full investigation. He was out for blood, essentially. So, they went down to the general counsel's office. and they said, "We want you guys to go down there and investigate." Hugh suggested that since I was in law school and somewhat familiar with stuff that I should go down as the "Recorder" [counselor] to the board. He [Hugh] was an Air Force Reserve guy, so he knew all of the terminology and recommended that they should appoint some senior officers, and I would be the counsel to the Board. We'd construct the Board and go down to do a full investigation, which we did. I found out that the [Miami] Port Authority was supposed to have widened the area where the NOAA ships were being docked and didn't do it to save some money. As a result, the turning basin was smaller than it should have been. In some respects, it was great, from my standpoint, in my mind to actually find out what the reason was. There were always, and there will always be, stuff that you can improve on in terms of procedures when you investigate something like this. So, the Captain's thing about, "I'll do the exact same thing," and all that shit, that was bad news; he shouldn't have said that and continued to maintain that position. There was some stuff about information coming in the Notice to Mariners that wasn't on the chart. I traced that down and found out that, yes, there was a problem there in terms of getting information from the mailbox up to the charts in a very expeditious manner. But it really didn't have anything to do with what the hell happened. I was able to actually nail down what the real cause was, and yet at the same time, we were able to satisfy Jack Townsend that we did the actual investigation and people did what they were supposed to do, by and large. I think the guy who was in charge of the base down there had not followed up with the city of Miami. He might have gotten a bad letter saying, "You should have done this," or whatever. From that standpoint, I think, certainly the

powers that be recognized having a commissioned officer lawyer was a good deal. I think some of the officers did, too. There were, however, a number of other officers who really didn't like this at all. They didn't like a junior officer questioning captains under oath and all that sort of stuff. That pretty much haunted me for the rest of my career. Some of those guys went up to positions of power, and I wasn't one of their favorite children.

MG: I'm wondering why they didn't see you as an ally for the Corps.

JC: Well, they thought that one of their friends had been railroaded and didn't get promoted to admiral because he went aground. They were looking for something to blame it on, and that was it.

MG: What was your motivation for pursuing a law degree? Did you think you were going to tie in with your Corps career or move on to something else?

JC: My motivation for getting a law degree was I had been told by so many people that this would be a great thing for me to do, that I had the skill set that would be appropriate to do that. In some respects, I was looking out for my future to the extent that if I had a law degree and nobody else did, that would give me an edge, number one. If I decided not to make the Commissioned Corps a career, it would do me well on the outside. Then, last but not least, there was the possibility that I could replace Shalowitz as the expert in boundary law. So, that kept me going. As it turned out, I spent my whole career at NOAA. [laughter]

MG: Were you limited to schools in New York because of being based at the New York field office, or did they accommodate you because you wanted to go to Fordham at that point?

JC: They accommodated me. I had been accepted to a number of law schools, one of which was Fordham. They recognized that there was a possibility there to do this. Of course, they want to do this [CERC] program anyway regarding the instrumentation on the class one vessel engine rooms. They wanted to do that anyway. So, it was just a matter of, "Well, that might fit if you go to Fordham." So that's where I went.

MG: To clarify for the record, the years you were at Fordham were 1968 and 1969?

JC: Yes, I believe that was. Let me look here. Yes, it would have been '68 and '69. I probably would have come down around '69 in the summer to start Catholic University.

MG: Maybe you missed out on some of this because you were a commuter, and you were also already in the working world. But there was a lot of political activism at Fordham in the late '60s. Were you aware of that or involved at all?

JC: Not necessarily with Fordham, but I was involved. I mentioned I had done recruiting for the New York field office. I was supposed to go to various schools in the New York area, at CCNY [City College of New York] and other colleges in New York City and the surrounding areas, and tell them about the ESSA Corps, or the Environmental Science Services Administration. When I

would go to these places, they would set me up in an office which was in the same area or adjacent to where the military services were recruiting. There was a group called the SDS.

MG: Students for a Democratic Society.

JC: Yes, I think that's what it was. They were particularly vocal about recruiting for the armed services, so they would stage demonstrations in front of all of the military recruiters. Since I was in the next room and was wearing a uniform, every once in a while, they'd bust into my place. I explained to them, "Not me. I'm not in the military." [laughter] They'd be nasty and stuff, but they weren't doing the kinds of stuff that they were trying to foment with the military. So, one day, I went into work, and the captain – so whenever I am going to be saying something that is not considered really favorable, I would like not to say the name.

MG: That's fine. I'm also happy to stop the recording.

JC: No, I'm going to tell you what happened. I'm just not going to name the person. At any rate, I was told that from now on, when I did my recruiting that I should not wear my uniform. I said, "Well, why is that?" "Well, because we don't want to incite the people at the SDS and stuff." I basically said, "That's bullshit. I'm a uniformed officer. I'm telling people that they are going to a uniformed service. Why would I not be wearing a uniform when all the other uniformed service people are?" To make a long story short, I refused to do it, and it got bumped up to headquarters. This particular person bumped it up and said, "Well, he's not doing this. Therefore, he's not a good guy or whatever." The word came back down that he [I] will wear his uniform, and if the colleges don't want a uniformed person there, they can come into the office and get interviewed. So, I didn't make a friend there in the New York field office, but at least I got backed up. [laughter]

MG: So, you continued to wear your uniform.

JC: I did. I continued to wear my uniform, and there was one college – I forget the name of it – they didn't want me to be in uniform. I said, "Fine. Then anybody who wants to come, come make an appointment at the New York field office, and we'll interview you there."

MG: Were you successful in recruiting? I keep thinking that the ESSA Corps must have been a great alternative to military service during the Vietnam era?

JC: Yes. I think we were very successful. We were trying to up the Corps strength from the hundred-and-forty or fifty Coast Survey officers up to four-hundred or something. I think I actually had a lot of success at Fort Schuyler, recruiting at least two or three guys that were in the lower classes and one of my own classmates later on. So, yes, I thought the recruiting effort was certainly acceptable. We didn't have any problem trying to fill our ranks. I think part of it was, first of all, you had a number of people that knew about surveying and knew that the organization did surveying. So, you had a group of people that wanted in because they thought it was a great career. Then you had other people that looked at it as an alternative to going into military service during the Vietnam War. So, it was attractive for them. I think the mindset of the Corps at that time was, "That's okay. We'll take them in, and we'll show them over the first

...” – I think it was a two-year minimum. “We’ll show them in the first two years that this is something that they really want to do.” To some extent, that was successful. A lot of people, who would have chosen the ESSA Corps as opposed to getting into one of the military services, realized after they got in that, “Yes, this is really something nice, and I’d like to do this.”

MG: What else do you remember about that year at Fordham? I’m curious about the classes you were taking, the professors you had, and the conversations that were taking place on campus?

JC: Yes. I had some phenomenal professors. I also stressed myself out to the extent that I was becoming dizzy. I went to the public health service doctor, and he said, “There’s nothing wrong with you except your stress level.” I told him what I was doing. So, he wanted to give me some kind of mild sedative, which I didn’t take, but just knowing that that was the problem, that I wasn’t hallucinating in my mind, that got me to get through the last couple of months in New York. Then, like I said, I got stationed back in DC, and no more incredible commute, etc., and going at crazy hours. I was able to get rid of the anxiety or whenever it was that was giving me a problem. The Fordham experience – the first experience that I remember was – we have already discussed that I went to an all-boys high school and an all-boys college. Fordham Law School was my first introduction to being in class with women. I found myself not speaking in class because I didn’t want to embarrass myself in front of a girl. [laughter] Wow. That was an interesting observation I made later. The other thing I noticed was the first night we were there, we had to go to the library, and we had to look up a case. The case was – oh, boy, I can’t think of it right now, but it’s a very famous Supreme Court case [*Buck v. Bell*] having to do [with] whether or not you can sterilize people. The way you did research in those days – no computer – was you pulled the books off the shelf, and you thumbed through them. I pulled a bunch of books off the shelf and sat down. All of a sudden, I heard this *swish-swish*, and this woman walked by in a skirt. My eyes followed, and I went back to reading. *Swish-swish*. In order to read this thing, I had to go find a place where I wasn’t watching the women walking by. [laughter]

MG: It was a distraction.

JC: It was. It was kind of an eye-opener that my education was lacking in some respects. It took a while, and I finally made some friends in the evening section, women friends, and became much more comfortable. Then I couldn’t keep my mouth shut again.

MG: How did you feel about transitioning to DC and transferring to Catholic University?

JC: I had applied to a couple of different ones [law schools] – Georgetown, Catholic, and American University. I talked to Hugh Dolan, the guy that I was telling you about, about which one was the better one, and he said, “They’re all ‘Brand X’. If you’re not going to Chicago, Loyola, or Harvard or somewhere like that, you need to find a law school that actually turns out practitioners, not law professors or is trying to turn out law professors.” That cut my choices, in my mind, down to – I think it was Catholic and Georgetown, and Catholic would accept all my credits, and Georgetown wanted me to redo my library course. So, I said, “The hell with that,” and went with Catholic, which was, by the way, closer to where I ended up living in Maryland. So, that was good.

MG: Were you continuing to work on the CERC system in DC, or had that work been completed in New York?

JC: We did that in New York. We completed the project at the same time that I finished my first year of law school. We submitted the report that summer, I believe. The report went to the Maritime Administration, I believe, and ESSA. They gave me an award for that. I remember going with the professor to one of the ships, and I can't remember which one it was. We wanted to test out a new device that he was working on that was one of the instruments that could be used in this system. We went to one of the ships, and it was a circular tube with a bunch of weirs in it. You would screw it onto the cylinder of the engine, and you could put a pressure gauge on the end of it. When you opened up the valve to this tube, the weirs would reduce the pressure to something that could be read at the end of this instrument, which allowed you to measure the pressure inside a cylinder at any time. So, we went back and field-tested that. I don't know what happened to it afterward. But that was about the end pretty much of my involvement with the CERC system. I moved on to other stuff.

MG: The CERC system would then go on to be used on the *Discoverer* and the *Oceanographer*, right?

JC: Yes.

MG: Any other ships?

JC: Yes. The class two vessels have a modified version of that in terms of automation, less than the *Oceanographer* and *Discoverer*, but the idea was that eventually, you would reduce the number of people necessary to man an engine room, as well as the amount of work that would be necessary. For example, if this deviation concept worked, instead of an engine breaking down in the middle of an operation and causing you to have to move in to get a repair done – and in those days, the procurement was such that if you had a broken engine, you'd call procurement up, and they'd say, "Well, it's going to be three months before we get a contractor on board." You could be down a long time. Whereas you can avoid that if you notice that the engine is deviating from the norm, you can schedule the maintenance. That's a huge savings of money, as well as labor. So that was the idea. Again, the initial instrumentation was pretty much done by aeronautical engineers using airplane sensors, which are really not for marine purposes. It was a new thing. It was definitely a new thing. There was a Japanese ship called *Kinkasan Maru*. – I visited the *Kinkasan Maru* when I was a senior at Fort Schuyler, working on a report on automation. It was the first ship that had an automated engine room. When they say automated – today we think automation [means] nobody in there. But in those days, things were automated, and there was still a person watching those engines. The industry itself was just coming into automation. This [the ESSA ships] was the Maritime Administration's shot, if you would, to do an automated ship and see what the results were.

MG: Were you aware of the forthcoming changes with ESSA in 1969 and around this time that NOAA would be formed in the following year?

JC: I'm sure that there was a discussion about it. I wasn't personally involved in it. There were, like I say, discussions that I heard between Hugh Dolan and some of the other lawyers. I was working for Admiral [Don A.] Jones at one point, who was the head of the Coast and Geodetic Survey. I was privy to discussions of the senior leadership people as to what might be coming down, but I had no input if you will. It was just, "This is this is something that's on the horizon."

MG: What were your feelings about the change?

JC: I had none. I was fat, dumb, and happy. The organization was a great organization as far as I was concerned. If they were going to give us some more responsibility and increase the science that we were doing and all that sort of stuff, that's okay. It didn't sound like we were going to be constrained. It sounded like we were going to be expanding. So, from that standpoint, it was, "That would be nice."

MG: Can you talk a little bit about transitioning to life in DC? Where were you living, and how were you managing your schedule at that point?

JC: Well, eventually, I rented a house in Silver Spring, Md. which is actually quite close to where the NOAA headquarters is right now, the NOAA Corps Headquarters. Initially, I had rented a one-bedroom apartment in Tacoma Park, and a friend of mine who became a lifelong friend, by the way – Coast Guard officer, who had been on the Coast Guard vessel assigned to BOMEX, was staying at the Army-Navy Club, waiting for his divorced wife to show up. He had been divorced from this woman. They had hooked up in Spain, where she was living or something, and she was going to come back, and they were going to start over again. I called him up, and I said, "I've got a couch that converts to a bed if you don't want to stay at the sailors and soldiers' place. Come stay with me." We had been skiing buddies previously, and like I said, we knew each other from Barbados. He said, "Sure," and then thought that his wife was going to show up within two weeks. Well, that turned out to be six to eight months, and still no wife. My landlady wanted to charge me double the rent. I said, "Look, (Fritz?), why don't we just go out and see if we can find a house," which we did on Thayer Avenue in Silver Spring, Md. We rented this house. Guess who shows up? His wife. [laughter] So, we all were living on Thayer Avenue. Eventually they got their own place. From [there], I probably went to my next sea assignment. After I finished law school, I was assigned to the *Peirce*. meanwhile, I was living down at Thayer Avenue, and it was a bachelor's place. I had a lot of parties with various commissioned officers, and started a softball team for the Commissioned Corps. We'd go to my house after the games once or twice a week and have a barbecue, probably twenty or thirty of us, wives and commissioned officers. It was a good time. In fact, I might have mentioned to you that we had a party at my house on Thayer Avenue in December, right when they were trying to pass that piece of legislation that would have given us parity with the veterans, and it wasn't going anywhere. We had hired a lobbyist, and nothing was happening. Admiral [H. Arnold] Karo came to that party, and I talked to him about it. It was the beginning of December, I think, and he made some phone calls, and the next thing I knew, it got moved to the [congressional] calendar and was approved. Apparently, he had some ins with [Henry M.] "Scoop" Jackson and the other Washington state representative. Good times and a lot of people, I think, remember that house. In fact, when I first left the house, other commissioned officers that were coming into the DC area would take up residence in the house and pay the rent. The landlady was an old

Irish landlady who lived right next to Hubert Humphrey. The lease that I had with her was a handshake in Washington, DC. She was amazing. She liked the fact that I was a good Irish Catholic boy. My word was good enough. She found out that I was a bachelor, so she said, “Well, you’re going to need a new washing machine to do your clothes.” She bought a washing machine for the house. Really funny. “And you’ll need this” – brought me a big soft chair. Why did I end up with this woman who was becoming like a mother here? At any rate, after I had gone to the *Peirce*, I think she died. I heard some phenomenal stories about how some tax guy – she had an audit, and she showed up with a shoebox full of receipts. “Here’s my stuff” – drove the guy crazy. She died. The family was going to sell a house, and they didn’t want to sell it to me. I wanted to buy using a VHA loan, they didn’t want to do that. So, I had to let the house go. That was the end of it.

MG: Well, it’s just about noon your time. I want to pick up next time with your time at Fordham, and then we can get into how your career unfolded.

JC: That would be perfect.

MG: Okay. I’m really impressed. At this point, you’re only with the Corps for five years, and you’ve made so many important impacts in terms of parity for uniformed service members, the CERC system, and the work you were doing.

JC: I appreciate that very much. When I look back at it, I consider myself having been a very dedicated NOAA officer, dedicated to the Corps and its excellence.

MG: Good. Well, do you want to pick a date for our next conversation?

JC: Sure. Let me get my calendar.

MG: Okay.

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Reviewed by Molly Graham 9/22/2021

Reviewed by John K. Callahan, Jr. 2/21/2022

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