Douglas Huffman

Born:
Santa Clara
Died:

Period of Service Viet Nam
Navy

Sources: Himself

Entered service April, 1969.

Released April, 1975.

See attached interview for the Military Archives of the Library of Congress.

VETERANS HISTORY PROJECT

Preserving Stories of Service for Future Generations

Interview with

Douglas B. Huffman

Conducted by Mr. John Gay

July 20, 2010

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Mr. Huffman: Today is Tuesday, the 20th of July. I'm Doug Huffman, and we're here at my house along with John Gay, my interviewer.

Mr. Gay: And that house is at 1463 Mountain Road in Washington Island, Wisconsin, 54246. And we're here to ask Doug about his experiences going into the service, what he did prior to that, his services experiences, and finally how it affected him and what he did thereafter.

Life Before Entering Military Service

Doug, what we need to find out now is what you did prior to service, and how you got into service.

Mr. Huffman: I graduated from Santa Clara High School in Santa Clara, California, where I was raised, in June of 1966. The following school year I went right into college at San Jose State College. I wasn't old enough to be going to college, so a couple of years later my draft board sent me my greetings from the United States government. But that was in the Vietnam area. I knew I didn't want to be a draftee, so the same day I got my draft notice I was down at the Navy recruiter and joined the Navy.

Mr. Gay: What year was that?

Mr. Huffman: This was April of 1969.

Basic and Secondary Training

Mr. Gay: Where did you take your basic, or boot camp?

Mr. Huffman: Boot camp was at San Diego, California – the Navy Recruitment Training Center, right over the fence from the Marine Corps Recruit Training Center. They had fun pointing at the fence between us and saying if we wanted to hop the fence that's one to hop, and when they were finished with us we'd be sent back to the Navy and be glad to be here (both chuckle).

Mr. Gay: I have a grandson who went through all that with the Marine Corps. So you were in boot camp for eight weeks?

Mr. Huffman: No. It was longer then – thirteen weeks, or maybe even sixteen weeks.

Mr. Gay: Was life different from what you expected?

Mr. Huffman: Boot camp was easy for me, and it's easy for sailors. The experiences I hear other guys tell about their boot camp training in the other services are nothing like what I went through. It was easy for me.

Mr. Gay: After that, you were assigned to what?

Mr. Huffman: I'm trying to think of when I did get my assignment. Commonly, early in your military career you fill out your dream sheet of what you want your job to be. I had vague ideas about following in my father's footsteps and being a gunner's mate. I think I probably mentioned the small boat Navy off of coastal Vietnam on my dream sheet. By the time I was out of boot camp they had a chance to analyze all my entry test stuff and they decided I was way too smart to do that kind of stuff. I was assigned as an interior communications technician – which, in civilian talk would probably be some kind of a telephone man. My insignia on my sleeve was a telephone, and I went to basic electronics school and from there to school teaching the basics of telephones and gyroscopes and switching networks and instrumentation.

Mr. Gay: Where was this?

Mr. Huffman: This was in San Diego – in the same place.

Mr. Gay: And that lasted …?

Mr. Huffman: Probably three months, I would guess.

Mr. Gay: So this was your secondary training and you were an instructor as well?

Mr. Huffman: No. I was on the receiving end of the training.

That was the basic professional school. Late in my time in this basic professional school – I had pretty good grades – they offered me nuclear power and I accepted the offer for nuclear power training and extended my commitment for two more years – for a total of six years of committed service.

Mr. Gay: When you were in the instructional school, was there a lot of military environment there or was it more academic? Was there a lot of marching and so forth?

Mr. Huffman: Even in boot camp we didn't march very much. You'd march to get someplace, but you didn't march to practice walking (chuckles). That's kind of what I was talking about – the Navy boot camp apparently is nothing, then, like what I hear about nowadays from the other services.

Interim Assignment

Mr. Gay: So after you were finished with the secondary school, you were assigned to what? You had the nuclear training.

Mr. Huffman: Right. I had committed to nuclear power training. My nuclear power school class convened in the second quarter of 1970, and so to fill the time up I was assigned to the USS Paricutin, AE18 – Auxiliary Ammunition ship, hull #18. It was a converted liberty ship, I understand. I was told that my mother was a grinder during the war, and that she remembered the name of the ship and that she had ground plates for the ship I was on. I was aboard the Paricutin for two or three months.

Mr. Gay: Sailing on it?

Mr. Huffman: Yes. We went up and down the coast of California. The old ship – it was very old both in condition and age – was preparing to make its last operational cruise to Vietnam as an ammunition ship. As it turned out she never got to go. They tried to get her to cross to Southeast Asia, and the ship broke down in the middle of the ocean somewhere. This was after I was off it – this was one of the stories I heard later. They lay dead in the water for a long time before somebody came out and rescued them. They dragged them back. It was home-ported in Port Chicago, near Vallejo, California.

Mr. Gay: You were there for three months on the ship. What did you do on the ship? Was there anything in particular you had to do?

Mr. Huffman: On this particular ship I was fresh out of this interior communications school. So I was most freshly trained on gyroscopes and telephones. The machinery that was in my area of training, if not expertise, was my responsibility. I had a non-rated kid who was a helper. I had an electrician's mate for a boss who didn't know anything more than he had to know about a gyroscope. It was an old, old, old ship and things broke all the time. I just did my best to keep …

Advanced Training

Mr. Gay: I think I remember when that ship was being made back in World War II!

So you had an assignment to nuclear power. How did that progress?

Mr. Huffman: The ammunition ship was home-ported near Vallejo. Mare Island Naval Shipyard is also near Vallejo, where the academic part of my nuclear power training happened. I was there for six months.

Mr. Gay: Is it an actual island, or is it a peninsula?

Mr. Huffman: I imagine it depends on how carefully you slice the definition. It's an island, but there's a causeway between there and downtown Vallejo.

Mr. Gay: How long were you there?

Mr. Huffman: The classroom part of nuclear power training lasted six months.

Mr. Gay: What part of the year are we now?

Mr. Huffman: The class convened in the second quarter, so that would have been early 1970.

Mr. Gay: What was it like to get your degree in nuclear physics?

Mr. Huffman: For me it was life changing. When I was in high school – remember new math? I was one of the first classes to get exposed to new math and it didn't work. I was trying to make the transition from traditional math education to new math to the point that my textbook was stapled together (chuckles).

Mr. Gay: Now the new trends are going back the other way, I think.

Mr. Huffman: So I didn't do well in math in primary school. The Navy, with the discipline and more traditional teaching methods – I really enjoyed my training. We learned math through simple calculus; physics, metallurgy, chemistry, a little bit of atomic physics …

Mr. Gay: You got a college degree in science!

Mr. Huffman: I wouldn't call it a college degree, but later on they made it count toward a college degree. I don't remember how many hours it was generally worth – something like thirty to fifty hours toward a degree in physics.

Mr. Gay: So you spent eight hours a day in school, practically.

Mr. Huffman: Eight hours a day in class and some level of after-hours study – either voluntary because you knew you should, or unsupervised in the classroom if your grades started to sag too much. If your grades got too low, then you had supervised after-hours study.

Mr. Gay: Was there a big washout of personnel?

Mr. Huffman: There probably was, but I wasn't aware of it – certainly not, again because when I was in the Navy was struggling with a lot of drug problems; this was early in the drug era and the San Francisco Bay area was where you were really exposed to it. With the exception of an occasional acquaintance who might have dropped out, I was too busy to see who was going or why they went.

Mr. Gay: How big was the class when you began?

Mr. Huffman: The initial class was, I think, 400. I could not even begin to guess what the graduating class was.

Mr. Gay: Once you had your certification, what did you do then?

Mr. Huffman: Well, that was just academic. We also had practical training yet to do. Early in the winter of 1970 I went to the NRTS – National Reactor Testing Station – out in Idaho, where the Navy at that time maintained three training reactors, S1W, A1W, and S5G. They were originally built as prototypes for testing various levels of nuclear reactor technology, and once the testing part was passed they were converted into training facilities. I was assigned to the first and the worst – the S1W; the first generation submarine power plant built by Westinghouse; a model of which powered the Nautilus, which I was assigned to. And I was there for another six months – early winter, 1970 to spring 1971.

Mr. Gay: You spent six months there. What happened? You were off the boats all this while – a 'land lubber' learning nuclear technology. What happened then?

Mr. Huffman: After the school? I had been to submarine power plant training, but I had not been to basic submarine training yet. So, from there I was assigned to a sub school at New London, Connecticut. As I recall that was a fairly short school – maybe two or three months. The vast bulk of it I had already seen as part of my nuclear power training, so for me that was a six-month long party. All the senior petty officers took junior ones like me down to the Acey-Deucy Club and taught us how to get blind for lunch (chuckles). It was a big party.

Mr. Gay: Were you learning more things then, or were you just applying things?

Mr. Huffman: I think I was primarily marking time. We had to check this box off for sub school. Maybe in a traditional career that would have been the time that you would have gone to the submarine escape trainer – the big dive towers. But a good many years previous to my career they had a fire at the New London escape trainer, so it was way, way behind on training. So I didn't go there. As a matter of fact, I didn't see the trainer until the end of my career in the Navy.

Mr. Gay: Had Rickover already produced the Nautilus?

Mr. Huffman: Yes. The Nautilus went to sea in 1959, I think it was: keel laid in 1952, launched in 1957 and under weigh in 1959.

Mr. Gay: So you were using what you had learned to help put the Nautilus together.

Mr. Huffman: Well, the principles of the ships are quite similar. But details from one generation to another are so extreme that you don't really learn the plant you qualify on until you get there and actually see it and actually have the hands-on study stuff to do. You can go to the ship ready to do a basic junior job, and so for the first two years you're aboard ship – the first two years if you're not smart and the first two years if you are smart – any spare time you have your studying.

Mr. Gay: So there are refinements and tweaking going on all the time. That's why each nuclear sub costs so much money – because they're always doing new things?

Mr. Huffman: Yes. Each class is quite different – one from the other.

Ship Assignment

Mr. Gay: So when did you finally get on a ship? What happened after sub school?

Mr. Huffman: I was assigned to the pre-commission crew for the USS Sand Lance – SSN660. At that time it was being built at Portsmouth Naval Shipyard in Portsmouth, New Hampshire. I did not quite make the cut-off date for the pre-commissioning crew, so I was among the first of the new crew for the submarine which was still being built – Sand Lance.

Mr. Gay: How do you spell that?

Mr. Huffman: S-a-n-d L-a-n-c-e – a long, silvery fish native to north Atlantic waters.

Mr. Gay: It's good to know that.

Mr. Huffman: The shipyard ran into money troubles early in Sand Lance's career. A typical building period might have been eighteen months or two years, and the ship I was on took three years to be built. Certainly for the first half of its career it kind of suffered for the lack of coordination in getting built, commissioned and qualified.

Mr. Gay: Unlike the liberty ships that were turned out two a day.

Mr. Huffman: Right.

So things happened, like a lot of our new machinery that had been ordered for Sand Lance, because they ran into money problems with the construction program, the new machinery would go to Jack – the USS Jack was there at the same time. She got our new stuff and we got refurbished Jack machinery. So (Indistinct)

Mr. Gay: Now where were you stationed at that time? It was being built in Kittery, Maine.

Mr. Huffman: And that's where I was – in Kittery.

Mr. Gay: At the Naval station there?

Mr. Huffman: It was a shipyard – a public shipyard.

Mr. Gay: But you were part of the Navy at that time. Did you have separate quarters?

Mr. Huffman: We lived in barracks until the ship was habitable, and then we moved aboard the ship.

Mr. Gay: That was a year-and-a-half?

Mr. Huffman: Let me think. I got there in September. The boat was commissioned in September and I was aboard for the commissioning ceremony.

Mr. Gay: That was late in 1971?

Mr. Huffman: Yes. I don't have any clear recollection about how long it was from commissioning until we headed to our home port. But it was probably something like three months. So we had sound trials and final fitting out and stuff to do while the ship was in the water at Portsmouth. Then we headed south down the Atlantic coast and stopped off at Groton, New London. I don't remember whether we were at the Electric Boat or at the Naval base there. I think we got our bottom painted on the way south. And we were headed toward our home port of Charleston, South Carolina.

Mr. Gay: So this boat had been commissioned in September, 1971. So it had been begun 18 months prior to that.

Mr. Huffman: It was more than 18 months because the construction program was a hard one. I remember stories from the crew members I served with of just horrible working conditions they went through trying to do what they were told to do.

Mr. Gay: What were your duties on board? What did you do on a daily basis?

Mr. Huffman: Being "junior non-qual" – not qualified to operate the plant – all I could do was take log readings: run around the plant and find particular kinds of machinery and write down numbers from them; which is a good thing for a new kid because you learn where everything is, what the limits on the numbers are.

Mr. Gay: You didn't have to turn anything on or off?

Mr. Huffman: Certainly not at the beginning! I remember that during some initial power plant operation, for an electrician – I wasn't an electrician but I was electrically trained – the junior operating watch station was the throttle; turn the big steam throttles. That was where my first watch station of power was. I was a trainee for an earlier one when Admiral Rickover was aboard to watch the operation of the plant. I corresponded with some of my shipmates who remember the day the Admiral was beating on the shoulder of the reactor operator because Charlie wasn't doing exactly what he thought he should. So I was huddling in the back of the control room trying to be completely inconspicuous (chuckles).

Mr. Gay: Being not seen.

Mr. Huffman: Well, see, I was not qualified. So very much in the Admiral's eyes I was invisible. I didn't want to be in his way.

Mr. Gay: He was a hard case.

Mr. Huffman: He was a hard case – that's the only way to put it.

Mr. Gay: You had to do these duties. You had a three-watch day?

Mr. Huffman: It depended on what the ship was doing and what particular manning level the department was on at the time. Usually it was an eight-hour day or three-section duty, or occasionally you had to go to port and starboard.

Mr. Gay: But you could be doing this at 2:00 a.m. as well as 2:00 in the afternoon.

Mr. Huffman: Yes, it rotated. Down inside the submarine daylight stops having meaning.

Mr. Gay: Did you ever have an occasion when something mysterious happened and you had to hurry to get some help or get an explanation?

Mr. Huffman: Me, personally?

Mr. Gay: Yes. Something malfunctioned?

Mr. Huffman: That's all it is! Finding malfunctions.

Mr. Gay: So we have you …

Mr. Huffman: Onboard the Sand Lance, and on our way to our home port in Charleston, South Carolina. This would be late 1971 by now.

Mr. Gay: And you wound up in … you made a stop over to get the hull painted.

Mr. Huffman: We made a lot of stops on the way down. We stopped at Groton, New London to get the bottom painted.

Mr. Gay: So they hauled it out of the water and put it in dry dock?

Mr. Huffman: Yes. I was too busy studying to know what was going on. I probably didn't even go outside. From my later experience, there are three floating dry docks at Groton, New London. And they probably slipped us into one and sprayed the bottom.

Then we stopped at Norfolk Naval shipyard to pick up dummy torpedoes to start learning how to handle our weapons. There are not many other government places between there and Charleston.

It probably took us a month or six weeks to get down to Charleston.

Mr. Gay: Now you landed at Charleston later in 1971, and this is your home port. What were the duties? What was the routine?

Mr. Huffman: Really, fitting the ship out. As I remember we had to move off the ship and live in barracks. I recall that I lived in the barracks in Charleston quite a bit of time as a sailor.

Mr. Gay: Let me go back to Admiral Hyman Rickover. He was on board for a day visit, or a longer period?

Mr. Huffman: It was longer, I imagine. And it wasn't his only visit. The story I was telling probably took place at Portsmouth Naval shipyard. In addition to commissioning and sea trials and stuff, for the people in the maneuvering control room the big milestone is first time plant critical – the first time getting the plant up to power. It was difficult for Sand Lance. I was too junior to really see or understand the technical problems they were going through. I have corresponded with a shipmate since then that they were not even up to power yet – they were up to plant critical and heating it up and he was taking a reading. He pushed a switch that should have turned on a couple of little lights and because of wiring errors he pushed the switch and the plant shut down. When things happen unexpectedly in nuclear power, it's real hard to recover from it. As I recall, they had to have, certainly, a critique and probably had to write an incident report over the wiring error that was discovered so late in the building program. That was while the Admiral was aboard, was shortly after that for initial operation of the plant at power.

Mr. Gay: Did a problem like that which you just now recorded, did that go all the way up to Rickover or did somebody else intercede in the meantime to make sure it was fixed and not likely to happen again?

Mr. Huffman: I don't know how much attention Admiral Rickover would have addressed to it, but he certainly would have known about it.

I did my whole career – 25 years in nuclear power – and I can assure you that not many things escaped Admiral Rickover's notice.

Mr. Gay: He was definitely hands-on and detail oriented. That's what I heard about him.

So now you've got him off the ship and you're down in Charleston. And your routine has become …

Mr. Huffman: Everybody learning how to do their jobs with this new ship, learning how to function in a different shipyard where nobody knew the officers and the crew, and the crew didn't know where all the officers were in the shipyard. Probably the next year,

roughly, the ship was going through final fitting out or getting certified to shoot torpedoes and operate weapons systems. As time went on, we got involved in more and more complicated training evolutions. Sonar was getting tuned up, polished and fitted.

Mr. Gay: So you were going below the surface on these trips?

Mr. Huffman: Yes. At some point we started doing daily operations where we'd go out at the crack of dawn, sail around and drill holes in the water for eight or ten hours. Another phrase we had was "spilling and drilling" – learning how to handle our reactor plant drills and casualties of one sort or another – ship-wide drills and casualties of one sort or another; learning how to function as a ship, a team.

Mr. Gay: How many people were on that ship?

Mr. Huffman: As I recall I think the nominal crew was 115. And depending on what you were doing, it was somewhere between 100 and 120 at any particular time.

Mr. Gay: You're pretty tall. Was there any restriction on your size being on that ship?

Mr. Huffman: No. I was not even the biggest on board the ship. As it happened, the electrical division, for some reason, I was not the biggest of my shipmates and the electricians were the biggest guys on the ship.

Mr. Gay: What was your grade at this point?

Mr. Huffman: I was a third grade petty officer – E4. I got E4 at the beginning of my academic training and did not make any more military advancement. I left as an E4.

Mr. Gay: And you were in for six years?

Mr. Huffman: Yes.

Mr. Gay: How long were you aboard ship?

Mr. Huffman: I was aboard ship for four years.

Mr. Gay: And that takes you up to 1975?

Mr. Huffman: Yes. In 1975 I got out of the Navy.

Mr. Gay: Did you take any long voyages on the ship?

Mr. Huffman: The Navy had spent a lot of time and money building the ship, and by golly they were getting their money's worth out of it. I'd say by 1972 we were always gone. Or so it certainly seemed.

Mr. Gay: Was it mainly Atlantic duty?

Mr. Huffman: Yes. It was an Atlantic fleet boat. Our normal area of operation ranged from the extreme north Atlantic all the way down to the Mediterranean Sea.

Mr. Gay: You were a nuclear vessel. Did some countries not want you there? I know New Zealand was supposed to be nuclear free – did others have that problem?

Mr. Huffman: Not as problem. The foreign ports we saw – we saw HMNB Clyde at Faslane, Scotland, near the Firth of Clyde, I think, at the time was where we had our submarine tenders and our base there. We visited a Scottish Naval base – probably just for fun; for liberty.

Mr. Gay: So you were in port a few days and back out?

Mr. Huffman: Probably, yes.

Mr. Gay: You mentioned submarine tender. What was their duty – just to keep you guys from getting hit by something?

Mr. Huffman: It's easier to concentrate the support structure for nuclear power for a submarine on a base surface ship. It gives good security. The submarine tenders at that time: that's where you probably loaded, if you were a strategic asset – you loaded your missiles, probably from a tender. Now, late in the evolution of the fleet ballistic missile submarine types, the missiles are only handled by tenders. I don't think there are any missiles left on land.

Mr. Gay: At sea they took care of this.

Mr. Huffman: Right. All that stuff is taken care of at sea.

Mr. Gay: That must be kind of a dicey operation, taking care of all that ordnance from tender to sub.

Mr. Huffman: First of all, it wasn't my area of expertise.

Mr. Gay: You probably witnessed it, didn't you?

Mr. Huffman: I was not on a missile submarine, either. We carried some special weapons torpedoes, but we did not see them as particularly different from conventional torpedoes.

Mr. Gay: You were not considered a war vessel, then?

Mr. Huffman: Oh, yes. We were.

Mr. Gay: What did you mean you didn't carry the ordnance or missiles?

Mr. Huffman: We didn't have any missiles on board. We were a fast attack submarine – an anti-submarine submarine or intelligence platform. We were not a fleet ballistic missile submarine. We were small.

Mr. Gay: I see. There was quite a bit of difference in size as well as capability.

Mr. Huffman: And their job. It was our job to go get into trouble. It was the "boomers" – the fleet working missile submarine – their job was to stay out of trouble! A very common exercise for us to do was to be told where a boomer was out in the ocean and we'd go out and follow it for a few days and make sure she didn't have a Soviet – well, at that time only a Soviet – tagging along behind her.

Mr. Gay: How would you be told? Would some intelligence from elsewhere be brought to your ship?

Mr. Huffman: Right. Again, this is a sea story – way out of my area of expertise. But there were quite a number of secure communications.

Mr. Gay: Then they'd 'sic' you on to whatever it was and you'd trail after them?

Mr. Huffman: Right. They'd tell us where it was and we'd go …

Mr. Gay: Try to find it.

Mr. Huffman: We were pretty good. That was our job – to try to find other submarines. We'd go find the boomer and follow her for a few days. We'd hang way back so ideally …

Mr. Gay: They didn't know you were there.

Mr. Huffman: I imagine they were told we'd be there. Otherwise they'd (indistinct)… Again, this is stuff way far away from my area of expertise. The fun opportunities I had in my career was after I had qualified all of my underwater watch stations and passed all of my certification tests and so on. Then my after-hours – I had a lot more freedom. And I ended up spending a lot of my time up in the sonar shack and a lot of the sonar men became good friends. I wound up standing watches on an insignificant sonar system after my hours in the engine room.

Mr. Gay: What would be the running complement on a boat when it was out?

Mr. Huffman: Like I said, somewhere between 100 and 120. If you're going out for something simple – like a weekend or something like that – then all of the squadron command type people who needed to have their sea time would go down and bump you

out of your rack and make you go sleep in the torpedo room. They'd come aboard and get their hours toward their sea time that they're required to have.

Mr. Gay: How fast did this submarine go – the Sand Lance?

Mr. Huffman: I was on board as throttle man trainee. Remember, this is four years later. I think we made 27 ½ knots on initial sea trials, underwater, on reactor power. We were scooting right along.

Mr. Gay: Did the propellers and the shaft and all that – did they hold up to the power being thrust into them, or was there any problem?

Mr. Huffman: Well, the ultimate limit on how fast the submarine can go and the power demand of the reactor plant is the torque limit on the driveshaft. I don't recall whether they were installed on the ship at that time or not, but later on we got some actual strain gauges so we could have a good measure of the torque on the shaft.

Mr. Gay: How long did the Sand Lance last? Is that still in service?

Mr. Huffman: I think Sand Lance was scrapped – actually scrapped, actually cut up – in 1999.

Mr. Gay: Did you ever visit it afterward? After you got out of the service?

Mr. Huffman: Yes. I went right from the ship to the shipyard and spent the rest of my career at the Charleston Naval shipyard. Sand Lance was in, out and around a lot. So, yes, I saw her off and on. She bounced off the bottom at some time – I don't recall just when – and came back to the shipyard to get some measurements to make sure they hadn't bent the hull. And that was my longest visit aboard at that time.

I spent my career as a civilian test engineer responsible for directing testing of the reactor plant. And just by chance – I never had a chance to practice aboard Sand Lance until after I was out of the Navy.

Return to Civilian Life

Mr. Gay: You got out of the Navy in 1975?

Mr. Huffman: In April 1975.

Mr. Gay: And you took up residence in Charleston?

Mr. Huffman: Yes. Well before I got out of the Navy I moved off base and was living off base as a civilian.

Mr. Gay: How old were you at that time – in 1975?

Mr. Huffman: I was born in 1948, so I was 25 years old.

Mr. Gay: Did you have a job when you got out, or did you stay in Charleston to find one?

Mr. Huffman: I got out of the Navy and off the ship in April. Probably in May I had taken my examination for an appointment to the union apprenticeship program at the shipyard in the electric shop. Not knowing what I do, and knowing that at that time the way to upper management was through the shop level of the shipyard. So in September I got my appointment to the shipyard and spent the next four years going through a union apprenticeship.

Mr. Gay: In what field?

Mr. Huffman: As a marine electrician. I finished as a journeyman marine electrician and practiced at the leading man level probably within two years of going to work in the shipyard. I was the only nuclear power trained person in the electric shop, which, due to history and tradition of handling all the nuclear instrumentation and control stuff on the ships. I had all the work I could do. I enjoyed the manual dexterity – the actual soldering, knot tying and wiring stuff. It was very pleasing to me. I enjoyed it a lot.

While I was doing that I got introduced to the job in the shipyard called shift test engineer, where most of the sailors in the shipyard with my background wound up going to. So, by 1979 I had applied for and taken the exams to become a shift test engineer, and by 1981 I qualified. I don't know how to tell what the job does. That's the way I spent the next 20 years.

Mr. Gay: Was it clerical then?

Mr. Huffman: No. I told you the story of when Admiral Rickover visited the Sand Lance and was beating on my friend's shoulder because he wasn't doing it right? As a civilian, and by the time I was working as an engineer Admiral Rickover was not involved in the testing of the ships anymore, he would have a fellow from his office come down. So we'd have the engineer of the watch, the senior commissioned sailor, and three enlisted watch tenders, me and Admiral Rickover's office representative, and somebody from General Electric or Westinghouse – whoever built the core of the reactor plant. I could put my hands gently on the reactor operator's shoulders. The engineer of the watch would pull the rods out a little bit and I would put my hands on the reactor operator's shoulders so I could see that he was reaching for them with the proper hand to make sure he wasn't going to get confused and move the rods in the wrong direction, because we'd have to stop and smoke over the green table and have an incident report. I didn't want to have that when I was responsible for it. I was trying to be a little bit more gentle.

Mr. Gay: So you'd actually move the rods? What is it these guys were doing?

Mr. Huffman: The reactor operator – the sailor? The power level of the reactor, and ultimately the temperature level of the reactor plant is controlled by removing neutron absorbers from the core. As these control rods – you hear about all the time – come out, they're not absorbing the neutrons that are available to cause more fissions and make more neutrons. I'm trying to think about how to talk about nuclear physics in 25 words or less! Every time neutrons go through a collision they make a little bit of heat. So they bounce a few times and they get sucked up by a piece of structure. There are more of them to bounce around and make power as the rods come out, and then, as the power adds heat – heat being a measure of power – then the water bounces fewer of the neutrons and they can wander off and do something that doesn't make power, and it settles down. And so up to 1% power you see it as a change in power. Then after that you see it as a change in temperature – as the rods come out the temperature goes up.

Mr. Gay: As the rods are in they're creating more power?

Mr. Huffman: The rods are poison. The rods are hafnium. I'm sure it's a fancy alloy. I probably used to know exactly what it was. A byproduct of uranium refining is hafnium, and hafnium can absorb – how can I say it: seven daughter isotopes of neutron absorption of hafnium are still hafnium and still good neutron absorbers. You can't burn out a hafnium rod.

Mr. Gay: Hafnium is an element.

Mr. Huffman: Yes.

Mr. Gay: When I took chemistry there were only 92 elements, and there are 120 of them now, so you can see what I missed.

Mr. Huffman: And some of them had some names like #121.

Mr. Gay: So you became a civilian alternative to sort of Admiral Rickover.

Mr. Huffman: For the purposes of this I'll take that, but I would not put myself anywhere near.

Mr. Gay: But it was a very, very special and demanding assignment.

Mr. Huffman: It was. I became my work. The BRAC 03 – the Base Realignment and Closure Commission of 1993, I guess it was – the third evolution of the Black Commission – decided the Charleston Naval shipyard was going to be closed. And the Charleston Naval shipyard was actually closed in 1995. And I was retired. I didn't have any more work that I could do in November, 1995, which is when I retired.

Mr. Gay: So you had been there for 20 years.

Mr. Huffman: Right.

Lasting Effects of Military Service

Mr. Gay: I can sense that your duties in the Navy really kind of changed your life and directed …

Mr. Huffman: I would like that the military did what it's supposed to do for every kid that goes in – he comes out a man.

Mr. Gay: That's very interesting. Was there anything in the discipline itself, or was it the discipline that you were subject to in terms of your nuclear duties that changed your way of thinking?

Mr. Huffman: I apologize for getting emotional.
I think I learned what responsibility is.

Mr. Gay: I've heard that in a number of cases: That it wasn't until they were in the military that they really understood what life was all about.

Mr. Huffman: You grow up. You can make heaven knows how many kid mistakes and there comes a time when there's no more room left for mistakes.

Mr. Gay: So you stayed in Charleston from 1995 until recently, when you moved up here?

Mr. Huffman: Right. We moved here right at the end of 2005.

Mr. Gay: You were there another ten years in Charleston. It's a beautiful city.

Mr. Huffman: It was a beautiful city. Part of the closing of an industrial facility like that – at that time in Charleston, the shipyard probably employed about 8,000 people I'd guess. A lot of them were just (Indistinct) a whole bunch.

Mr. Gay: They moved them all out?

Mr. Huffman: No. There just wasn't a place for them to go to work anymore. For a lot of them – a lot of my coworkers, especially the younger ones, found appropriate work nearby. People of my job training – my job title – a lot of them went to the Savannah River Plant and worked in the expended fuel processing facility and protocol that was supposed to end up at Yucca Mountain. That mainly was my entre into politics was watching the expended nuclear fuel politics that led to Yucca Mountain, for instance.

Mr. Gay: What was your exact title at the end?

Mr. Huffman: In the Navy or in the shipyard?

Mr. Gay: In the Navy, then in the shipyard.

Mr. Huffman: I got out of the Navy as a third class interior communications technician, submarine qualified – IC3SS. Then I retired as a ship test engineer, top step GS12 – that's 85th percentile civil service, roughly. I was qualified to direct operations on an S5W/S6G reactor plant.

My big success, late in my career: The Navy had built late model high generation submarine plants which are still in operation now. The first one had to have a component that cleans up the radioactivity in the plant changed. The Navy tried to do it with sailors and it didn't work very well. It was an expensive clean-up after that. And I got assigned to the effort to do it at a depot maintenance level in the shipyard, and went to do it in the Naval shipyard, and did it under budget, under time with no mistakes. I had lots and lots of big bosses come and visit me, I got a lot of 'Atta boys' which made me feel good about my career.

Mr. Gay: Admiral Rickover would have been proud of you.

Mr. Huffman: Admiral Rickover was gone by then.

Mr. Gay: Thanks, Doug. It's been a very interesting conversation with you and I really do appreciate it. We'll close now and let Doug see what we've recorded.