

Z. The budget just passed has some money in to permit us to complete the design work for the 2,000-ton seagoing size, and if that works well the Navy will probably leap to the 4- to 5,000-ton category in the '80s.

R. 80 knots - that's frightening.

Z. 80 to 100 knots -

R. That's a frightening number

Z. I've ridden the 100-tonner and it's a real thrill.

R. Who's trim?

Z. It's a device, as I recall, for infrared photography over land and it wasn't very important and we thought we could save some money.

R.

Z. Tackanal capability - that's the aircraft that would relay the signals to the strategic submarine, and it's our weak link in the system in the Navy.

R. Is that getting anywhere?

Z. Yes, and we did increase it some during my watch.

Nuclear warhead in surface-to-air missiles didn't seem to us to be very important and the same way with sub-rock (?) and the increase

was to improve our people programs - 5-inch was minor,

air-launch to ASM was minor. That one didn't get very far, No. 49.

No. 50 was a very important one to improve short_____.

R. ..in personnel?

Z. Yes. And 51 and 52 are minor.

R. So, going back through that ...floating that S - whatever that ...

Z. The systems that were extant and had been justified by the Congress, and were under contract when I came in, included the following: in the submarine field, there was the SSN-688 Class which was a too expensive, too sophisticated submarine, that had end-run, sound management procedures and had been put through by Admiral Rickover, assisted by the bull submariner in the Navy, Vice Chief of Naval Operations, then Admiral _____, when I was Director of Systems Analysis.

R. It was an attack submarine.

Z. It was an attack submarine. We spent a lot more for it than we should have, but by the time I took all that having been done it made better sense to keep that going and to just hold Rickover down on going into the follow-on series which I was successful in doing.

- R. He had even a bigger and gaudier one than this one.
- Z. That's right. If I hadn't restrained him, we would have been building already or trying to justify to Congress something still and more expensive.
- R. How much does a copy of this one cost?
- Z. Like 300 million. So, in the submarine field the only thing necessary for me to do was to restrain Rickover from a worse attack class and to cooperate with him, as you'll see that I did in Project 60, in suggesting that we could accelerate the development of the follow-on strategic submarine if it became a national necessity, as it later did.
- R. On the subject, never mind the fact that the Russians have a lot more, how do you feel about the number of submarines that the Navy has in relation to the mission submarines
- Z. Well, you have to examine the number of strategic submarines as part of the total strategic equation.
- R. I'm not talking about strategic, I'm talking about, you know, are we far short of the number that would be needed.
- Z. Our analyses suggested to us that we come much closer to having the right number of submarines than we do having the right number of anything

else, again, because we're oblong in the direction of Rickover. That's not to say we couldn't use more, but the first billion dollars we get ought to be spent on other things, and the first five billion dollars we get added to the budget ought to be spent on other things.

R. That answers that question.

Z. Now, in the surface field, the day before I relieved Admiral Moorer after checking with me, the Secretary of the Navy authorized the signing of the contract for the 30 DD-963s or spruance class destroyers to be built, follow on to the LHAs down at Litton in, would you believe it, the State of Mississippi, from which the Chairman . And that series of 30 destroyers came about in the following way. When Mr. Nitze had been Secretary of the Navy, he fought vigorously to get produced a very cheap escort class to follow on and be somewhat better than the DE-1052 class. Ray Pete was put in charge of that project and together with the engineering duty officers in his staff concluded that it was not the right thing to do and insisted on a larger ship. He was dismissed by Mr. Nitze and his successor came in and took exactly the same attitude from which I conclude that it was really the Chief of Naval Operations,

policy to build a much bigger ship, and when it finally got designed - three program managers later - it was up to the seven-to eight-thousand ton category, more expensive and larger than it needed to be, but again was far enough along that like the 688 class the intelligent thing to do was go forward with it rather than to kill something that had already been laid.

R. What was the money there?

Z. I guess/it is on the order of a hundred million each. That needs to be checked.

R. What can it do other destroyers can't?

Z. It is merely a replacement for the World War II destroyers with modern equipment, but the patrol frigate which will be half the cost can do everything except it can't go quite as fast. This 963 class will be a good carrier escort.

R. Does the patrol frigate have as much fire power as this?

Z. Very nearly as much, because the major fire power in both cases will be the Harpoon missile and both of them will carry two helicopters. And we were already under contract for the 9LAJs, also too big and too expensive. We did cut down on those from 9 to 5

R. Then you can't blame all of this on Rickover then?

Z. No. It has been Navy policy to try to get the best you can get in each ship, rather than to conclude that you're better to adopt the Russian policy that better is the enemy of good enough.

R. This goes back to a whole line of predecessors of yours?

Z. That's correct.

R. That go all the way back to the sainted Burke?

Z. Arleigh Burke told Steve Schwartz, you recall, that he got driven into far faster and more expensive procurement of submarines than he would have probably preferred. He, I think, shared my instincts. The CNOs who intervened between Burke and me just didn't get into that level of detail. They became captive of the ships' systems command and Admiral Rickover, and passively felt uncomfortable about what Rickover was doing.

R. Does this have anything to do perhaps with the fact that they were aviators and not surface men?

Z. Yes, in my view it did. So, having concluded that the sensible thing was to cut the LAJs, to continue the 963s and the 688 submarines, it remained then for me under this Project 60 umbrella to come up with

four new classes of surface ships.

R. Incidentally, who/what union pushed for the LHA?

Z. The Marines, and the former amphibious force commanders of whom Admiral

Holmes, was one, and Admiral J. B. Caldwell was another, and it

was a way of getting in one ship the capability to replace several ships.

There probably was more justification for it in the case of the LHA than

in anything else because it did permit you to carry the equivalent number

of Marines for the ships that were being replaced. Now, the four new

classes of ships then that with which I came up were first the patrol

frigate - this was a much smaller escort that did do what Paul Nitze

set out to do years earlier, that is, to keep the size and sophistication

down. We put an upper limit of fifty million dollars in 1973 dollars on

it - it will go up above that, of course, from inflation but the equipment

tradeoffs have been conducted in a way to keep it down.

R. Is there a difference between this and the big destroyer in terms of how

many men are needed to man it?

Z. Yes, it will take somewhat smaller number of men and it will only be about

half the tonnage of the 963.

R. There will be a lot less fuel and operating expense.

- Z. And we aspire to have 30 of those. We got 1 into the 1974 budget.
- R. They single screw?
- Z. They're single screw. We had 7 in the 1975 budget and Stennis cut it from 7 to 3, in my judgment, under the influence of Admiral Rickover. And notwithstanding a personal appeal by the Secretary of Defense.
- R. Where are they being built? Out in Mississippi?
- Z. No. Up in Bath. If we can get a good buy this year, they'll probably be off and running and they probably will survive. The second was the sea-control ship, originally called the air capable ship, and I think you know quite a bit about that now. It would have been about 17 thousand tons, would have carried 17 aircraft, would have been a very austere flat-top, and would have made it possible to provide cheap air defense, air alerting, ASW defense for seven or eight convoys for the price of a single aircraft carrier, which otherwise would be required to do the job.
- R. Your numbers are one carrier per convoy.
- Z. If you have to have air protection, you can afford eight of these for the price of a single nuclear propelled aircraft carrier and therefore protect eight convoys instead of one.
- R. What kind of aircraft would have been on them?

- Z.5 It would be a combination of 14 helicopters - the SH-3 or the big carrier-type helicopters - and 3 Harrier aircraft.
- R. All the vertical stuff.
- Z. And this ship having been destroyed by George Mahon in alliance with Rickover, horse-trading with Stennis, the Navy - if it comes to life again - will have to doll it up in enough change that Congress can say, "You see, we were right all along." In other words, ^{maybe}/make it a little larger, put a little more aircraft on it; they might even have to make ^{as} it/expensive as having a resting gear and catapult on it, in which event she'll be up to something instead of the hundred million dollars that we had put on this limit, in the 300-350 million dollars. And you'll get only two of them for the price of an aircraft carrier instead of seven.
- R. And so you regard that one as pretty much dead. You took a licking on that.
- Z. Yes. That's right. Then the third category was the small PHM or hydrofoil craft. Incidentally, earlier I said 30 patrol frigates, it was 50 of those, that we have in our program and it is 30 hydrofoil crafts that we have in our program, and the first of these were authorized in last

year's budget; they are a very small craft of, I've forgotten, I think it's 70 tons, and will again carry Harpoon missiles, will be used to operate out of bases in the narrow seas like the Gulf of Tonkin, or the Mediterranean Sea, or the Red Sea, and can trail the trailers very cheaply, or ...

R. Can they sail across the ocean all right?

Z. Yes, they can, but they don't have enough endurance to go by themselves, they'd have to be mothered going across the ocean.

R. They wouldn't have to be carried, then.

Z. That's right. This gives you the opportunity then, cheaply, to have a low-value trailer of a higher value Soviet ship, and it's part of this re-optimization process.

R. What's their price tag?

Z. In addition, of course, just to be a strike ship against bigger task forces, and their price tag, I think, was 17 or 18 million.

R. They are being built now?

Z. The first two or three were authorized in the '75 budget and I don't think the contract has been let yet. I don't know who has it. And then the fourth category was this surface-effect ship that we've discussed.

R. You always thought of it as a long-range proposition. You never expected it to be an immediate thing.

Z. That's right.

R. The surface-effect ship is another...what's its tactical use?

Z. The surface-effect ship...if you can get a four to five thousand ton hull to travel that fast at sea, will give you the capability to revolutionize the nature of Navy war. For example, that would be the ideal way of returning large numbers of troops to Europe rapidly. It would be the ideal way of keeping small numbers of the most sophisticated kind of aircraft at sea because an F-14 aircraft would be a VESTAL if the platform is travelling at a hundred knots, when they catapult it, it looks like a vertical landing, and the takeoff the same. So, you could think in terms of four or five or ten aircraft on one of those.

R. What does that mean in terms of time of a trans-Atlantic passage...

Z. It's roughly 2500 miles from New York to Portsmouth, so if you're going 100 knots, that's 25 hours, or a day's time.

R. That's extraordinary.

Z. We figured, these numbers we're going to have to get checked, something like 35 of them could return the troops to Europe in three days' time.