

Rice versus Zumwalt on Project 60

Z. I had to make the decision soon after taking office that in view of the very high costs of the LHA and the overruns that Litton was having that we should drop, as we were authorized under the contract, from 9 to 5. This was, indeed, part of the process of reducing the Navy's projection capability in order to increase the money that we could put on the sea control and was the immediate trade off to get those extra nuclear submarines - something that Admiral Rickover was very gracious about for fifteen seconds.

R. What about weapons? ?

Z. The most significant problem that we had was the 16- or 17-year head-start the Soviet Union had with regard to cruise missiles, something you remember they designed because they didn't have aircraft carriers and they needed, therefore, a pilotless aircraft to have the very long range they needed. But as they began to get that capability and as our carriers therefore became very vulnerable with a lot of dollars involved in individual platforms, it was quite obvious that we needed to get a cruise-missile capability on as many platforms as we could.

R. To use for what?

Z. To strike, to give us an offensive capability on any ship that had it, rather than just on the dwindling number of aircraft carriers. One of the great hoaxes perpetrated on the Navy by the Naval Aviation Union was to keep almost any ship except a submarine from having an offensive capability so that the aircraft carrier would not have any competition. And that, you recall, was the reason the cruise-missile Regulus was killed in earlier years, and in order for the Harpoon to be developed - I think I have recorded elsewhere-that Captain Wirth Bagley, then Executive Assistant to Paul Nitze, and Rear Admiral Elmo Zumwalt, then Director of Systems Analyses, had to collaborate on a directive for SEC NAV to send to CNO, Admiral Moorer, to do the study that led to the Harpoon missile, and I received very strong instructions that in doing that study if I wanted it to survive, the range of that Harpoon missile ought not to be beyond 50 miles in order not to be competitive with an aircraft. By some amazing circumstance, it ended up being about 70 miles.

R. But it could be more than that?

Z. Yes, there was no reason/^{why}we couldn't have set out to build a 200-mile cruise missile and outrange Soviet cruise missiles. As it now stands,

we can outrange some but not all.

R. That Harpoon going to be deployed in '75?

Z. That's right.

R. That's close.

Z. That, incidentally, tells you a little something about the slowness of our weapon system procurement process. The study that led to the definition of the need for it was the one I've just referred to, and that took place in 1968, and I pushed it hard as I could push for four years as CNO - from '70 to '74 - and my successor will get it out in '75.

R. There was no significant opposition to Harpoon in Congress, was there?

Z. No significant opposition to it, but significant opposition to speeding it up. We could have gotten it earlier, and have reduced our great vulnerability earlier.

R. Well then, what else ?

Z. We need it almost as badly as the offensive reach - the capability to deal on each ship with the Soviet offensive reach - and that required the close-in weapon system or CIWS which has been badly cut back in the development process by the Congress and will be several years later in coming out than it should have been.

- R. That's what you were describing as the modern counterpart of the ?
- Z. That's right. And another great weakness proved to be secure rapid communications for our fleet unit. The Soviets are well ahead of us in that field, greatly superior ...
- R. By secure, you mean unjamable?
- Z. Both unjamable and undecipherable, so that ...
- R. Well, undecipherable is always, isn't it?
- Z. No. Today, most of the ships of the United States Navy cannot send a tactical communication rapidly in code. We're a generation behind the Soviets in this field.
- R. Is this very expensive equipment?
- Z. Yes, but not nearly as expensive as ships and yet again because there isn't a union, it's much harder to get it through.
- R. Radiomen, first-class union..
- Z. Another area of great weakness on our part and superiority on the Soviet's part is in the field of electronics' warfare; that is, the capability^{both}/to detect what the other fellow is doing with his electronics and to be able to interfere with it, and the Soviets excel over us in both categories.

- R. Speak for a minute on the comparison of 1975 electronic stuff and World War II electronic stuff, both in terms of sophistication and capability and money and everything else.
- Z. The electronics and communications suits required for the '70s, I would describe as a double-order of magnitude more costly and more complex than World War II.
- R. Only double.
- Z. Yes. That means a hundred times.
- R. This includes radar, sonar, a whole bunch of stuff?
- Z. That's right. And the very rapid advance that has been made in these fields is the primary reason why the ships in our reserve fleet would make only a very marginal contribution if they were brought back. We found when we recommissioned the Battleship New Jersey that, although she still had those very fine 16-inch guns for digging out Vietcong and North Vietnamese from their caves, that she had very great difficulty even communicating with other naval ships which had gone so far beyond her in communications, and she would have been relatively defenseless given the mediocrity of her electronics' warfare capability.

- R. And when you're in to the electronics, you're also including all the guidance systems for missiles, torpedoes, and that kind of stuff?
- Z. Yes, although not so much in torpedoes, but guided missiles are electronic.
- R. I was just uprighing on the assumption that Mark-48 torpedo was so accurate . . . the guidance missile . . .
- Z. I need to check that whether or not - I think it's probably unclassified - the systems.
- R. It's sort of electronics...
- Z. The Soviets know what it will be - whether or not we've announced it to ourselves by declassifying it I don't know.
- R. But electronics is in everything at this point?
- Z. That's correct.
- R. We might just digress on the personnel situation which this creates too. We'll use it somewhere.
- Z. The influx of vastly more complex systems, as a result of guided missiles rapidly sophisticating electronics' warfare and communications and all the rest, has been to greatly increase the technical skill-levels required to maintain a ship. For example, as early as 1959, when I commissioned

U.S.S. Dewey, the world's first guided missile frigate, it had been manned under the old theory that the controlling requirement would be for enough personnel to have one-third on watch, manning one-third of the equipment at a time. I had to prove, in order to get an allowance increase,

R. Say that again...

Z. Traditionally, ships' manning has been determined by what number of people it took to man the ship for condition watches, one-third of the equipment man, or for the total number of people required to man everything when you went to general quarters. On the Dewey, I was able to determine that there was a larger number of people required just to maintain the ship than were required to fight it, and I had to get an increase in order to keep the ship properly maintained. There were about 30 numbers, or ten per cent. So, that for the first time at that point, the curve of requirements to maintain a ship exceeded the requirements to fight it.

R. Does this say something about the delicacy and fragility of this equipment, too?

Z. Yes, it does, and just with the numbers of people to keep "peaking and tweaking" - as we call it - the gear running all the way from guns to guided missiles to sonar to radio to electronics, etc., and the skill

level of these people required has gone way up. In 1953, when I was writing complements and allowances for ships, only about 50% of our personnel had to be rated petty officers. At the present time we reckon we need about 62-or 63-per cent petty officers. It has gone up that much in twenty years.

R. How about the of educational levels, skill levels?

Z. Yes, the skill levels of a pay officer required to maintain a guided missile has got to be an order of magnitude tougher than the gunner's mate who used to maintain the guns.

R. How long does it take to get such a petty officer up to the job?

Z. It takes over a year to train properly an electronics' technician or a guided-missile technician.

R. And this is somebody with some background in the field to begin with, probably? Or not..

Z. No. You can take the fellow who has graduated from high school and in about a year and a half of his four-year term, make him school-trained. It takes about another six- to nine-months before he has the practical experience to do a good job, and so he is at least half way through his four-year tour before he begins to return his investment.

- R. So you really need to retain guys like that for at least a couple of hitches.
- Z. That's right. And we try very hard to make their training to that level, contingent on their committing themselves to a six-year tour for that reason.
- R. So they don't just join the Navy to be trained and then go out and get a good job as a television repairman.
- Z. I asked my old Chief of Fire Controlmen on the Dewey, who now works as a technician for an applied Physics lab to give me a couple of pages on the Dewey problems. I got that in the other day, and although it needs to be rewritten by a storywriter and I need to add a little bit to it, it's a beautiful description of a scandalous development of a missile system, that was so bad that we had to turn around and get Washington to create a whole program management system to try to debug a missile system for which we were the first of the class.
- R. These were surface-to-air missiles?
- Z. No. Anti-aircraft missiles; first of a new class of missiles.
- R. It just gets confusing when you talk about no-cruise missile, guided missiles.....

- Z. That kind of thing probably fits more into the procurement complication...
- R. I don't know, but it ought to fit somewhere. Well, can you just kind of state for the record again, in rough order of priority, what you were up to with - specific, not in terms of mission, but in terms of specific pieces of hardware ...

(Recording device turned on and off - few words missing)

not in order of importance, necessarily.

- Z. That's correct. Whatever the yeoman picked up to start doing.
- R. Well, in order of dates, probably.
- Z. You know, these range all the way from minor and immediate to very important. For example...
- R. Which ones here are really important?
- Z. That conversion of the mine forces to accent helos (?) forced us to reduce the surface minesweeping force in order to get the money to operate the helos and acquire them, and there was a period of time when we had almost no mining capability. Fortunately, we got the hilos in the force and trained and ready just before we had to use it to sweep Haiphong, and then within a year used them over in the Suez. So, it was

a gamble about giving up current capabilities for awhile to get future capabilities that we just barely survived.

R. These are existing helicopters, though, they are not

Z. They were a new class. The Marines had some, and we borrowed them from the Marines.

R. Is this the name of the helicopter accent?

Z. No. To emphasize helos. They were CH-53 helos.

R. What were they otherwise used for?

Z. The Marines were using them for amphibious lifts.

R. They were using them for personnel, then.

Z. That's right. The acceleration of captor, in my view, was of major strategic importance; the capability to seal off those narrows very cheaply..

R. What does acceleration mean?

Z. I don't recall the number of the years early that we got it. There was just a very low-level effort to get capture, and no real plan to deploy it. It was just something to which the military were paying lip service because civilian authorities had been interested in it.

R. But it was already fully designed at that point?

Z. No. It was just still pretty much in the preliminary design.

Their ship is what became the sea-control ship.

R. So that was very important to you, too. That's just to initiate concept formulation. How far did that ever get? Did the concept get formulated?

Z. Yes. And we actually have a preliminary design that would have been turned into a final design if we had gotten the \$29,000,000 that Congress eliminated last year.

R. No. No prototype...

Z. No. Well, we did convert an LPH to a sea-control ship by putting a combination of helicopters and carrier aircraft on it, and operating it in fleet exercises and found it was immensely successful. In other words, we operated the actual equipment that would be used on it.

R. You want to talk about what a Harrier aircraft is? That was another one.

Z. A Harrier aircraft is a VESTAL aircraft, which means vertical take-off and landing aircraft, which can go straight up and straight down. If it can get a little bit of a run before it takes off, it takes much less fuel and therefore operating it from a small flattop gives you more range with it than operating it from just a single deckspace.

R. What do you use it for? For anti-submarines....

Z. The Marines recently procured it as a very cheap tactical support aircraft.

We have borrowed some from the Marines in order to test it on the sea-control ships and think it would be an excellent cheap way of getting some defense for convoys against cruise missiles and the very long-range aircraft.

Operating from the interim sea-control ship, the Guam, these aircraft intercepted every Soviet aircraft that came to reconnoiter the ship before that aircraft got close enough to fire the cruise missile.

R. Oh, really! This was in the Jordan thing?

Z. No. This was during a fleet exercise in the North Atlantic.

R. But it's not an anti-submarine?

Z. It could also be used to go out and drop ordinance on the submarine - torpedo or

R. It's a lot cheaper than a carrier aircraft?

Z. Much cheaper than a carrier aircraft. We also used it in fleet exercises to drop sonar buoys; after contact had been made you could get a very quick reaction by the VESTAL aircraft going out and dropping sonar buoys to localize it further. So, it's got a lot of utility and by putting it on