

PATROL COMBATANT MISSILE (HYDROFOIL) PHM HISTORY 1973 - 1993

By George Jenkins
Presented 14 June 1995

PROLOGUE

The following paper was written in 1993, shortly after the PHMs were decommissioned. Its purpose was to document the history of the PHM program before the records in existence at the time were lost or destroyed. For this reason, it is as comprehensive as I could make it; leading to perhaps undue emphasis on some incidents that are really minor in the overall PHM story. It is, I confess, an article by and about bureaucrats and about how decisions are made in Washington. It reflects my mindset at the time and no attempt has been made to hide my partisanship as an advocate of high-performance ships for our Navy. The article, with very minor editing, appears as it was delivered to the IHS annual meeting that year. A short epilogue recounts some subsequent activity and presents a current status of the ships. -- George Jenkins (1 Nov 00)

BACKGROUND

The need for a relatively small, fast ship to counter the proliferation of Soviet and Warsaw Pact missile boats, was articulated in the late 1960s by the North Atlantic Treaty Organization (NATO) Commander in Chief, Allied Forces Southern Command (CINCSOUTH). This requirement was pursued by a subgroup under the NATO Naval Armaments Group called the "NATO Fast Patrol Boat Conference". The USA's involvement in this group was initially limited to special forces (i.e., riverine warfare) applications. However, the U.S. Navy's successful application of hydrofoil technology via the operations of *USS TUCUMCARI* and *USS FLAGSTAFF* in Vietnam was of strong interest to the conference.

The conference became convinced that the hydrofoil was the best hull form to meet the CINCSOUTH requirement, and the USA agreed in 1970 to share this technology with interested nations. Nonetheless, the USA made it clear that it would not participate in a cooperative building program. A new group, Ex-



ploratory Group 2 (EXG/2) was formed (under Information Exchange Group Six (IEG/6) on ship design) to develop preliminary hydrofoil designs, which hopefully would lead to more advanced designs and ultimately to cooperative construction.



ADM Elmo "Bud" Zumwalt

Later that year, ADM Elmo Zumwalt, the U.S. Navy's newly appointed Chief of Naval Operations (CNO), was persuaded that such a hydrofoil craft would play a major role in his new "high-low mix" vision for the U.S. Navy's shipbuilding program. He directed the USA delegates to confirm a USA commitment to the fledgling NATO program. As a result, the USA became chairman of EXG/2, which now had a membership consisting of Canada, Denmark, France, Germany, Italy, The Netherlands, Norway, the United Kingdom, and the USA. This group quickly evolved into a NATO project group, and with the signature of the PHM design/development Memorandum of Understanding in November 1972, the NATO PHM Project Office and Steering Committee were formed. By that time, though, only the USA, Germany and Italy remained fully engaged in the project. The USA was the lead nation for design, development, and acquisition and chaired the steering committee.

That same year, the USA Navy awarded a contract to Boeing for construction of two "lead ships" (actually prototypes, though the USA avoided use of this term in order to emphasize the maturity of hydrofoil technology to Congress).

1973 THROUGH 1976

These years were the formative ones for the new class of ship. As might be expected, the program experienced early difficulties, all of which were overcome, but not without effort and some cost growth. The initial USA planning figure for acquisition was 30 PHMs; this was reduced to 25 in 1974, and further reduced to 6 in 1975.

Italy announced in 1974 that they would not enter PHM production; they would, however, continue to participate in design/development. That was the same year in which the USA reduced its intended "buy" to 25 ships. Germany remained a full partner in development, as well, deferring any production decision until the US decision would be made.

Boeing experienced a variety of manufacturing problems including aluminum welding, foil and propulsor cracking, gearbox design, and outfit sequencing. As a result of ensuing cost growth, the U.S. Navy issued a "stop work" order on *HERCULES* (PHM 2), and applied the funding saved by this step to the successful completion of *PEGASUS*.



PEGASUS (PHM 1) was launched in November 1974, and shortly afterward began the most extensive technical and operational evaluation (TECHEVAL and OPEVAL) that had been conducted at the time. By the completion of OPEVAL in the summer of 1976, the ship had steamed over 25,000 miles - essentially once around the world.

In 1975 the USA's program was reduced to a total of six ships; *PEGASUS*, plus four ships for which funding had been appropriated in 1975, plus completion of *HERCULES* (to be appropriated in 1976).

SUMMER 1976 - PROGRAM STATUS

In late 1976 the PHM program, was moving rapidly toward an Acquisition Milestone III "go/no-go" production decision via the Defense Systems Acquisition Review Council (DSARC) process.

Captain Ed Molzan was the Naval Sea Systems Command (NAVSEA) Project Manager, CDR George Jenkins was the Naval Operations (OPNAV) Program Coordinator. Because the program was still in its R&D phase, SEA 03 (Jim Schuler) and David Taylor Naval Ship Research and Development Center (DTNSRDC) (Bill Ellsworth, Bill O'Neill, Bob Johnston, and LCDR Bill Stolgitis) were still intimately involved. As observed above, *PEGASUS* (PHM 1) had just completed one of the most extensive Technical Evaluation (TECHEVAL)/OPEVALs ever conducted in the U.S. Navy.

Congress had appropriated the funds required to build PHMs 3-6 in FY 1975 and also appropriated funds to "complete" construction of PHM 2 in FY 1976. (Actually this "completion" was to be essentially a rebuild. Most of the material on hand from the prototype effort wound up as spares for PHM 1.)

The FY 1978 budget contained \$42.8M to convert the ex-*USS WOOD COUNTY* (the first of the LST 1178 class) into a PHM support ship (AGHS). The support ship concept, borrowed from the earlier Patrol Gunboat (PG program), was considered indispensable to deployment of the ships to the Mediterranean, their intended area of operations.

PRODUCTION DECISION PROCESS

At first glance, it would appear that this program was on a clear, trouble - free course to a favorable production decision. Actually the storm clouds were gathering rapidly.

The PHM OPEVAL had turned up six discrepancies that would have to be corrected in production; lack of capability to navigate the ship accurately in pilot waters when foilborne, MK 75 gun cut-out cams, wye duct cracking, unreliable static frequency converters, and struts/foils

cracking. Correcting these deficiencies would be a fairly expensive undertaking, adding more cost to other cost growth items that had plagued the program since 1972. There was a perception among some of the decision makers that PHM cost growth would never be brought under control.

Similarly, there was a perception that some of these deficiencies introduced a high technical risk aspect to a program that had been extensively advertised as essentially risk-free.

From the program viewpoint, perhaps the most damaging situation was the lack of really strong support in the U.S. Navy itself and the determined opposition of a few antagonists in the Office of the Secretary of Defense (OSD).

ADM Holloway, who had relieved ADM Zumwalt as Chief of Naval Operations (CNO); Secretary Middendorf, who had replaced Secretary Warner; and VADM Doyle, the Deputy CNO for Surface Warfare; were institutionally supportive, having testified favorably on the program to Congress in the past, but PHMs were not number 1 on their agenda. The surface Navy was at the beginning of its infatuation with the phased array radar-based combat system named AEGIS (the Greek word for “Shield”) and was getting ready to launch the DDX study which ultimately provided the rationale for the *ARLEIGH BURKE* Class destroyer (DDG).

RADM William Read, Director for Ship Acquisition (OP-37) was the only real flag officer champion the PHM program had in those days. It is a tribute to his tenacity and personal involvement that the U.S. Navy ever had a PHM program.

In OSD, in a mirror image of U.S. Navy, there were also a lot of neutral figures but one full-scale adversary in the Directorate for Program Analysis and Evaluation (DPA&E). This organization’s hostility to the PHM program was unrelenting and intense on the part of one or two senior staff members.

Starting in August 1976 the program started down the torturous path to DSARC. In general, this involved three major briefings; in reverse order, the DSARC itself at the Assistant Secretary of Defense level; the Assistant Secretary of the Navy (SECNAV) level Department of the Navy SARC (DNSARC) and the CNO Executive Board (CEB), consisting of the principal 3-star Admirals in OPNAV and chaired by the Vice Chief of Naval Operations. Of course, these three programmatic briefings each typically required several prebriefings of lower level staffers, as well as special briefings on any especially knotty technical and financial problems.

It was hoped to get a favorable DSARC decision before December. This would allow OPNAV to announce the commencement of PHM serial production at the semi-annual meeting of the NATO PHM Steering Committee scheduled for late November, permitting maximum impact on the German production decision point scheduled for the following April. This did not happen. The program survived the Department of the Navy reviews essentially unscathed, but could not get on the busy DSARC calendar until 9 December.

RADM Read and Captain Ed Molzan gave the DSARC presentation in a tiny, hot conference room on the first deck of the Pentagon. Admiral Mike Michaelis (Chief of Naval Material) had come over to show 4-star support. After the briefing, the questioning was not especially intense. After a few polite exchanges, the Navy principals were invited to leave and the DSARC went into executive session to vote. The results of the vote were not announced that day.

The next day it was discovered informally that the DSARC had voted to recommend PHM program termination to the Deputy Secretary of Defense (DEPSECDEF) for Acquisition, Mr. Clements. This decision, it appears, was based almost solely on the “thumbs down” vote of the Director, Program Analysis and Evaluation, whose opposition to the program was a matter of record. On 10 December, the negative decision paper was already wending its way through the several OSD offices required to coordinate on DSARC recommendations.

It was at this time that RADM Read initiated an end run around the OSD decision process. Within a day, he established personal communications with the Assistant SECDEF for International Security Affairs, the Honorable Eugene V. McAuliffe. This was the OSD office charged with NATO affairs; Admiral Read had served with McAuliffe in an earlier tour. Read convinced him that the DSARC’S decision, if implemented, would wreck one of the most successful NATO cooperative programs ever formulated. As a result, McAuliffe sent a very strongly worded personal memo to DEPSECDEF Clements protesting the DSARC’S action. Shortly after the first of the year, based on the McAuliffe memo, Clements signed out a decision memo overriding his own acquisition council and approving the PHM program for full production.

The U.S. Navy advocates were initially jubilant and notified their NATO partners of this favorable decision. But 1976 had been an election year, Jimmy Carter had won over Gerald Ford, the transition team was in place, and Clement’s and McAuliffe’s days in office were numbered. The antagonists on the DPA&E staff, on the other hand, were career civil service and were to remain in their jobs after the inauguration. The long knives were still sharp, and only temporarily sheathed.

On 23 January, 3 days after the inauguration, the new SECDEF, Harold Brown, announced that the PHM support ship conversion would be deleted from the FY 1978 budget and that the PHM program itself would be “reviewed.” The funds for production were frozen pending completion of this review. For the next two months the Navy advocates scrambled frantically to muster enough support to influence the so-called review favorably, and they actually succeeded in getting the new SECNAV, Graham Claytor, to sign out two memoranda to Brown urging him to release the funding and allow the U.S. Navy to proceed with the production contract.

Notwithstanding, on 6 April 1977, Brown signed an action memo stating that no further PHMs would be built, and that *PEGASUS* could be used as a test platform.

OSD was now faced with a small procedural problem. As mentioned above, all the funding for building PHM 3 through 6 and for completing PHM 2 had already been appropriated. Under the provisions of the Impoundment Control Act of 1974, if the executive branch desired not to

obligate appropriated funds, the President must ask Congress to rescind those funds. This required the passage of a bill of rescission by both houses, as with any other law. Congress had 45 legislative days to pass this bill, starting from the date of the presidential request. If Congress did not act in that time, or if did not pass the rescission bill, the law required that the funds in question be obligated for the purpose originally appropriated.

Virtually no one anticipated that Congress would do anything other than pass the rescission measure by a healthy majority. The two appropriations committees, especially the HAC, where the rescission bill would originate, had not been terribly friendly to the PHM program in past years.

President Carter signed out the rescission request on 18 May 1977. The HAC scheduled a hearing on the bill for 12 July, ten days short of the legislative cutoff.

In June 1977, RADM Read was transferred to relieve VADM “Rojo” Adamson as Commander, Naval Surface Forces, U.S. Atlantic Fleet (CNSL). He was relieved as OP-37 by RADM Bruce Keener.

The period between 6 April and 12 July was a nightmare for the PHM program. The budgeteers removed all PHM support funding from the five-year defense plan (later, it took years to get it back in place). PMS 303, the PHM Project Management Office, began losing personnel. OPNAV had dutifully notified the NATO partners of the decision by message, and on 18 May the German Attache advised RADM Read that Germany had also decided not to go into production. The German position on this decision was then, and remains today, that Germany had independently determined that PHMs were too expensive and they would not have entered into production no matter what the USA’s decision. This may be so, but the Germans had been engaged in serious preliminary production discussions with Boeing only a month or so prior to this. Some believe that there was a very good chance that - had the US stuck with the original favorable decision - Germany would have gone along.



The only good thing that happened to the PHM program during that period was the commissioning of *USS PEGASUS* on 9 July. It was by no means certain in the April-May time frame that this ship, then 3 years old, would ever see service with the fleet. OPNAV sources received informal word that neither of the two surface type commanders at the time would accept the ship- a one-of a-kind oddball with limited maintenance support. As luck would have it, LCDR Bill Erickson, who had orders as to relieve LCDR Eric Ashburn as PCO, *PEGASUS*, was working on the staff of VADM St. George, then Commander Naval Surface Forces, Pacific. LCDR Erickson personally convinced VADM St. George to accept the ship on a conditional basis - if it

proved too hard to integrate into the force, it would be decommissioned and turned over to DTNSRDC as a test craft. With this understanding, USS *PEGASUS* was commissioned on 9 July 1977

The following week, on 12 July, RADM Bruce Keener (who had relieved RADM Read); the CNO, ADM Holloway; and the Secretary of the Navy, the Honorable Graham Claytor, appeared before the HAC Defense Subcommittee, for its hearing on the PHM rescission bill. Admiral Holloway and Secretary Claytor, who were to be the principal witnesses, had been “brought up to speed” the previous evening. As far could be determined, this was going to be a *pro forma* drill. It was viewed as very nearly impossible that the Democratic - controlled HAC would overturn a Carter administration - sponsored move to kill the PHM program.

Chairman George Mahon of Texas presided. Congressman Norm Dicks of the Seattle District where Boeing was located (he was not a member of the subcommittee), opened with a request to the subcommittee to kill the rescission measure and allow the PHM program to proceed. Participants viewed this as a case of special pleading “for the record,” so Dicks’s constituents would know he was trying to save Boeing work.

Mahon observed that Holloway’s present testimony was significantly at odds with his earlier testimony, which had been strongly supportive of PHMs. This was taken to be a mild wrist-slap, since Mahon obviously knew that Holloway had no other option than to support the SECDEF.

At the end of Claytor’s prepared statement, Mahon entered into the record the two memos Claytor had sent to Brown requesting a program go-ahead; and asked him to explain his about face on the issue. The Navy was not aware that these memos were in Chairman Mahon’s possession; accordingly, Claytor was not prepared to answer and fumbled pretty badly in his response.

After about an hour of testimony which included the formal statements by Holloway and Claytor supporting the rescission measure, and answers to questions that had been transmitted from the committee to the U.S. Navy a day or so earlier, the witnesses were excused and the subcommittee went into executive session. Admiral Keener and his staff were waiting for his car to take them back to the Pentagon, when CDR Bill Tschudy, the OPNAV Legislative Liaison Officer, suddenly appeared with the news that the subcommittee had voted 9 to 2 against rescission!

Which meant, of course, that the Department of Defense (DoD) would be required to obligate the appropriated funds to build the other five PHMs.

The reason for this remarkable turnabout appears to have been the fact that the Washington delegation to the senate, Senators Warren Magnusson and “Scoop” Jackson, had secured enough support to defeat the measure in a floor vote; rather than run the risk of another political embarrassment in which the Senate killed an administration bill, it appears the subcommittee elected to kill it themselves. For this situation, one must recognize that the Boeing Company had done some masterful lobbying that spring.

PHM advocates were jubilant, but cautious. Opposition died hard in OSD and elsewhere in the DoD. There were those who advocated resubmitting the rescission measure; others who thought the U.S. Navy should build the ships and then scrap them; there were lengthy contract reviews conducted. While the bureaucracy fumbled, the clock ran. It soon became apparent that the U.S. Navy had incurred a \$13.2M cost growth by slipping contract award beyond the original February target. To its credit, the U.S. Navy identified funds to offset this shortfall, but OSD refused to approve the reprogramming. In essence, OSD said “build what you can with the money you have.” The U.S. Navy was in a real quandary; there were several options developed but in the long haul, they boiled down to three:

- a. Reduce the PHM buy to 4 ships vice 5.
- b. Take out some of the very few backup systems on all the ships.
- c. Build one of the ships without weapons.

The decision was made on 4 August to build *GEMINI* (PHM 6) with foundations and cabling for the Harpoon missile system, the deck gun, and the fire control system, but not with the weapons themselves.

The U.S. Navy advertised that *GEMINI* would be used as a test ship, but never intended to implement this decision. OPNAV quietly budgeted for a gun, a harpoon system, and a fire control system to be bought in 1981 and installed in 1983. This was done via the Fleet Modernization Program (FMP) using OPN procurement funding lines which had far less visibility than the shipbuilding plan. Moreover, the actual procurement and installation (as it turned out) would be done under a different administration.

At any rate, the contract to complete PHM 2 and to build the other 4 ships was finally awarded to Boeing on 20 October 1977. The delivery sequence was to be PHM 3, 4, 5, 6, and 2. The reason for this was that the funding to “complete” PHM 2, had been appropriated a year after the funds to build PHM 3, 4, and 5. SCN (Ship Construction – Navy) funding has a five-year “life,” and it is always desirable to operate a ship as much as possible after delivery and prior to the post-shakedown availability (which is paid for out of the remaining SCN, just before the funding expires). So if PHM 2 had delivered first, one of the later ships would have been shortchanged in terms of shakedown time.



Also it often asked why PHM 6 was selected to be the

one that delivered without weapons, rather than PHM 2, the last delivered. The reason is that Congress appropriated funds “to complete” PHM 2; a ship without weapons is not “complete” and to build it this way could be construed as violating congressional intent.

PLANNING FOR PHM EMPLOYMENT

With the production program underway, it became time for the U.S. Navy to begin detailed planning to use the ships. One major concern was homeporting. The U.S. Navy had long advertised that the PHMs would be used and probably homeported in the Mediterranean, in which PHM characteristics could be used to control many strategic choke points; but little planning or coordination had been done. True, *USS PEGASUS* had been homeported in San Diego since August of 1977, but this was a temporary expedient. In the fall of 1977, a PHM operational concept working group was established to develop a plan to get the ships from delivery in Seattle to their ultimate homeport. By early 1978 staffers had a pretty well - developed plan to shift PHM 1 to Little Creek Virginia in December 1980, with the production ships coming around in two groups; 3, 4, and 5 in summer 1981 and PHM 6 and 2 in 1982. While this was happening, PHM 1 would conduct a trial deployment to the Mediterranean in 1981, after which plans for ultimate Mediterranean homeporting would be finalized.

This plan took on a different, accelerated, spin in the spring of 1978 when CINCNORTH invited U.S. Navy PHM participation in a North Sea/Baltic FPB exercise “Bold Game 79”. This would require steaming *USS PEGASUS* through the Panama Canal to Norfolk VA, a brief lay-over there, then an accompanied transit to the Baltic. This scenario would have allowed *USS PEGASUS* to conduct the trial Mediterranean deployment after the Bold Game ’79 exercise - almost 2 years ahead of schedule.

Needless to say, there were any number of complications and problems to solve before the U.S. Navy could sign up to this scheme. One of the problems was the fact that *USS PEGASUS*, at this time a Pacific Fleet Ship, would be operating in the Atlantic Command and European Command areas much longer than what was then the common practice. VADM Read, who was then COMNAVSURFLANT, offered to solve this problem; he recommended shifting *USS PEGASUS*’s homeport to Little Creek in 1979 - a year ahead of schedule.

In June of 1978 the VCNO (Admiral Long) approved the interfleet transfer but ruled out the Bold Game participation and trial deployment. In his opinion, a homeport shift followed immediately by a deployment would impose too many demands on the crew and their dependents. So the OPNAV staff went back to the planning board on the trial deployment and the overseas homeporting schedule; at the same time efforts were underway to help CNSL and CLF get the support in place to accept *PEGASUS* in 1979 and the production ships according to the original schedule.

By the fall a new concept was working its way up the OPNAV chain of command; *USS PEGASUS* would deploy to the Mediterranean in FY 1980, and assuming a successful dress re-

hearsal, would shift to her new homeport of Augusta Bay, Sicily in FY 1981. The production ships would remain at Seattle until the *HERCULES* delivered, then transit direct to Augusta Bay in 1983.

By February 1979, the new concept paper was still hung up in staffing, so an interim homeport assignment was approved for PHM 3 and 4 to Little Creek in June/July 1981 and PHM 5, 6, and 2 in May/June 1982.

In July 1979, *PEGASUS* arrived at her new homeport after a highly successful transit from San Diego to Little Creek, in the course of which she set the world's speed record for transit of the Panama Canal (2 hours, 41 minutes). This record still stands, at this writing.

SURFLANT had generated plans for a pre-deployment workup of the ship, anticipating an FY 1990 deployment. At a progress meeting on this planning in late July, it surfaced for the first time that Admiral Harry Train was leaning toward a Caribbean role for PHMs.

In August 1979, *USS PEGASUS* went aground in the York River at foilborne speed. Damage was extensive.

In early September, LCDR Bill Erickson, the commissioning Commanding Officer (C.O.) of the *USS PEGASUS* relieved CDR George Jenkins as OPNAV PHM coordinator.

In late 1979 and early 1980, OPNAV continued to vacillate on the subject of homeporting the production PHMs; but the problem was complicated further by the CINCLANTFLT initiative to homeport them, at least temporarily, in Key West, Florida. This was driven by a desire to show a "presence" in the Caribbean and interestingly enough by Train's perception that it would shake out the support concept and allow a much smoother deployment or homeporting in the long run.

At last, in March 1980, a decision was made; *USS PEGASUS* was assigned to Key West effective 1 August 1980; the fledgling COMPHMRON 2 staff and Mobile Logistic Support Group (MLSG) effective 1 October 1980; and the production ships effective upon commissioning.

Probably because of turbulence associated with the homeport shift, the planned FY 1980 deployment of PHM 1 was deferred to FY 1981.

In February 1981, one month before *USS PEGASUS*' INCHOP date, CNSL (VADM Johnson) called off his three-month deployment, citing frequent system casualties, long lead time parts, unreliable equipment, and the need to gain experience using MLSG in deployments. The deployment was slipped to March - July 1982 and later changed to *TAURUS* and *AQUILA* (instead of *PEGASUS*) for 6 months (September 1981 through March 1982).

CINCUSNAVEUR, COMSIXTHFLEET, COMFAIRMED, NAVSEA, SURFLANT and COMPHMRON TWO staffs in concert, worked up a viable deployment plan, conducted site sur-

veys, planned the MSLG laydown, and generally were ready to go; but the ships' delivery dates had slipped, so the deployment slipped into 1982.

Between 1981 and 1983 there were three more deployment slippages; the last deployment was scheduled for all 6 ships in FY 1985. Finally, citing the need to refine the PHM logistic concept, to develop tactics and generally gain more experience with the ships, OPNAV directed in April 1983 that planning for PHM deployments should be held in abeyance. CINCLANTFLT was tasked to develop a long-term PHM forward deployment capability, and CHNAVMAT was tasked to review certain maintenance requirements that restrict locations from which the PHMs may operate



(e.g., daily extension of the struts and foils). Regrettably, neither of these actions were ever taken. Despite two quite successful in-theater trial deployments (Roosevelt Roads in 1984 and Grenada in 1988), operations beyond the Caribbean/GOM and WESTLANT AREAS were never scheduled - nor was Mediterranean homeporting pursued beyond the action officer level. The ships were seriously considered for employment in the Persian Gulf in 1987 (Operation Earnest Wind) but it was decided to send the Special Operations Force PB MK III'S instead. The deciding factor in this case was the need to replace the production PHMs' outboard elbows (part of the waterjet propulsion system) on an urgent basis, at about the same time the ships would be deployed. As it turned out, that was the last real opportunity to show what the ships could contribute in combat. Failure to seize this opportunity almost certainly contributed to the early retirement of the class.

Many officials associated with the program believe the ships were far readier to go then than they were in 1980; in fact, and in retrospect, a *USS PEGASUS* deployment at that time might have been a disaster. The whole PHM logistic support, as it evolved, was just coming on line in 1983. Prior to that time many problems arose that may well have been magnified during a deployment.

Material status:

In 1991, the Assistant Chief of Naval Operations (Surface Warfare) (OP-03), following consultation with CINCLANTFLT, determined that PHM combat systems would not be upgraded in POM 1994 using OP-03 funding. Any upgrades other than C3I, mandatory, some RM&A, and safety/survivability alterations, must be funded from counter drug sources.

This policy left the ships with a number of weak spots in their combat systems suites:

- a. The TAC MK 105 ESM system was 1960's technology and was no longer supported in the U.S. Navy. This system was to be replaced by another ESM system named

SLEWS, but this procurement was canceled - at least partially because of the OP-03 decision.

- b. The MK 34 decoy launcher is serviceable, but it is a manual system, very heavy, with a limited number of rounds in ready to fire configuration. Plans to replace this system with a lightweight, fully automated small ship decoy system (SSDS) foundered with SLEWS.
- c. An Inverse Synthetic Aperture Radar (ISAR) installed in *USS HERCULES* proved to be a major factor in successful counter drug operations; but counter drug funding was not available to procure and install more of these systems on the other ships.
- d. Similarly, LINK 11 would have added another dimension to PHM counter drug OPS; but again, CD funding was not available for this equipment.

On the positive side, the PHM platform sponsor and NAVSEA (PMS 330) had planned to improve the ships' safety and reliability and had developed a solid package of alterations in these areas that were approved for accomplishment in FY 1994 through 1997.

OPERATIONS

With the exception of overseas deployments, the PHMs operated in much the same way as any other Atlantic Fleet Ship, participating in major and minor fleet exercises, primarily in the Caribbean, but also in other WESTLANT OPAREAS, such as VACAPES and Mayport.

They provided valuable service in the national effort to increase the USA's presence in Central America and in the Caribbean Island Republics. With foils retracted, they were able to enter ports too shallow for larger ships, their liberty party was not so large as to swamp limited port recreational facilities, and the ships themselves were high tech and – let's face it - exciting!

Perhaps their most important service was their heavy involvement in the national counter drug program. Since the squadron was first fully constituted in 1983, PHMs accounted for about 30 percent of all surface U.S. Navy-assisted drug seizures. In FY 1992 they devoted over 84 percent of their underway time to this mission. The Senior Coast Guard Commander in the Miami area has said that “[PHMs] are the most effective surface asset [for certain types of counter drug operations].” This success may have been a mixed blessing, however; there are those in the U.S. Navy who view drug interdiction as a Coast Guard mission, definitely a secondary (maybe even tertiary) mission for any “real” U.S. Navy ship. To these individuals, the fact that PHMs never deployed beyond the Western Atlantic/Caribbean and did not serve in Desert Shield/Storm weighed heavily in their disfavor.

In June 1992, CINCLANTFLT proposed to CNO that PHMs be decommissioned by the end of FY 1995, and replaced in their counter drug role by the “Patrol Coastal” (PC) [this is a 300 ton semi-displacement craft procured for the Special Operations Command (USCINCSOC)]. The

rationale was high PHM operating and maintenance costs. CNO agreed “in principle”, and requested CINCLANTFLT to generate a plan for replacement of PHMs with PCs.

In January 1993, CINCLANTFLT acknowledged that PCs could not be used as originally assumed. As CINCSOC units, they are not normally under CINCLANTFLT operational control, and CINCSOC would not agree to any firm commitment of his assets to USCINCLANT missions. Nonetheless, CINCLANTFLT again recommended PHM decommissioning, to be completed by March 1994 (vice FY 1995). His rationale this time was that PHMs are single mission ships, and that he (CINCLANTFLT) had not been funded to operate and maintain them in FY 1993. In February 1993, in the absence of any objection on the part of the OPNAV staff, CNO approved this course of action.

This decision process is worth examining. There was a complete change in rationale between the first and second CINCLANTFLT proposal. The June message offered a substitute for PHMs in the counterdrug mission; the January message referred to the PHM single mission and stated that CINCLANTFLT had a \$19M shortfall in PHM operations/maintenance funding in FY 1993.

Although never officially disputed, this rationale was very weak. PHMs are single mission; but so are about 52 percent of all surface navy ships (amphibious ships, combat logistics forces, auxiliaries, and mine countermeasures ships). As to the funding issue, the U.S. Navy comptroller disputed that the shortfall identified by CINCLANTFLT existed; and even if it did, it would amount to only about 1 percent of the CINCLANTFLT operating budget. Economies in other areas could easily be found to keep PHMs operating - if this were desired.

What, then, might the real reasons have been?

Let us examine some PHM drawbacks, real and perceived.

- a. PHMs have limited range. This is true; PHMs generally had to be refueled as soon as they joined up with other ships, e.g. a battle group. This is an irritant to the Tactical Commander, who generally must assign one of his combatants to the refueling task. On the other hand, this drawback is not especially significant in counter drug operations.
- b. PHMs are unreliable. Not true. In fact, PHMs demonstrated a voyage reliability (VR) of over 0.97. [VR is defined as: 1 minus (voyages aborted, discontinued, or revised divided by total voyages.)] But because the ships have little internal redundancy, casualties that would not generally be noticed by an outside observer tended to be highly visible in PHMs.
- c. PHMs are expensive to operate/maintain. This is not true. This belief perhaps stems from the early days of the program when there were several expensive (relative to the PHM budget) technical problems that had to be corrected on short notice. PHMs actually cost about \$3M per ship per year to operate; about 1/3 the cost of an FFG-7, or

1/5 the cost of a *SPRUANCE* class destroyer. This is a matter of record, and the U.S. Navy budgeteers are well aware of it, but the belief that PHMs are expensive was prevalent among the higher echelon U.S. Navy decision makers.

- d. PHMs are not deployable. Not true. PHMs have demonstrated this capability in two “dry runs” in 1984 and 1988, but the Fleet Commander never exercised this capability, as noted above.
- e. PHMs did not serve in any of the high visibility navy operations (Earnest Wind, Desert Shield/Storm). Sadly, this is true; they were withheld from these operations by the organization that later proposed their retirement (CINCLANTFLT).

On the positive side: PHMs are a superior platform for interdiction and apprehension of drugs, and in many scenarios are by far the best platform, as the commander of the Seventh Coast Guard district in Miami attested to CINCLANTFLT on 31 December 1992. (Unfortunately, his message is classified and cannot be reproduced in detail here). What we can say is that the six PHMs, representing about 3 percent of the U.S. Navy, accounted for 26 to 29 percent of all surface navy assisted drug seizures in the last 10 years. The street value of drugs seized by PHMs amounts to \$1.1B, or 5.5 times the cost to operate the PHMs over that period of time.

Why, then, should a ship that is eminently successful in its mission, and comparatively cheap to operate, be retired with half its service life remaining?

The correct answer is probably that the decision was colored by the negative impressions mentioned above, but actually centered on the following considerations:

- a. Many individuals in the U.S. Navy view the counter drug mission as not being a “real” mission, since it was congressionally imposed in FY 1990. They believe that law enforcement is a Coast Guard mission, and thus beneath the U.S. Navy’s dignity. While these people cannot actively thwart the counter drug effort, they do not support retaining a U.S. Navy asset simply because it is superior in this field.
- b. At a time when force structure limits are being externally imposed, the PHM could have been seen by some as a threat to the continued existence of other, larger ships. For example, if there were to be only 350 ships in the U.S. Navy, PHMs would count as much as an *ARLEIGH BURKE* Class destroyer, so if we kept PHMs, we could lose 6 *BURKE* Class. (Of course the 350-ship U.S. Navy with the PHMs would be much cheaper to operate than the one with the extra *BURKE* s, but that doesn’t enter this equation.)

Whatever the actual motivation for the early retirement proposal, it was approved by the CNO (as acting SECNAV), as observed above. In terms of ultimate disposition of the ships, some staff thought was given to retaining the PHMs as future mobilization assets (i.e., “moth-balled”), but this approach was rejected, initially. The rationale was that the infrastructure that

supports PHM-unique logistics and maintenance would quickly dissipate when the ships are inactivated. In the absence of a continuing American hydrofoil industrial capability, it would be nearly impossible to recreate this infrastructure in the future. Accordingly, PMS 330 and the OPNAV platform sponsor recommended to N86 that the ships be offered for foreign military sale (FMS). If this offer were to be accepted, the hydrofoil infrastructure would be preserved, and the ships would be used, presumably in support of common goals of the USA and its allies.

The Foreign Military Sale option was approved by N86 on 10 February 1993, and formally promulgated to NAVSEA on 22 February, and to CINCLANTFT on 15 March. The intent was to arrange for “hot ship” transfers, i.e., the decommissioning schedule would be arranged so that at least two ships would remain in commission at Key West, with adequate ships’ companies and MLSG personnel available to train the foreign crews, until turnover to the foreign Navy/Navies. (Ships decommissioned earlier would remain in Key West under a caretaker arrangement with the MLSG until turnover.)

With due regard to the extended solicitation and legislative processes involved in the FMS process, OPNAV and CINCLANTFLT eventually agreed upon a schedule whereby PHM 1 and 2 would decommission in June 1993, PHM 4 and 5 in August, and PHM 5 and 6 in December. The crews of the *ARIES* and *GEMINI* would provide the requisite training. Note that this schedule represented a major acceleration of the original CLF proposal to decommission the ships in a phased manner “prior to March 1994.” Indeed, the December decommissioning date would require a major effort to get enabling foreign sales legislation in place prior to transfer.

Although OPNAV, NAVSEA, and the U.S. Navy International Programs Office pursued this course of action vigorously, it soon became evident that CINCLANTFLT’s PHM priorities did not include an orderly or successful foreign military sale. As time went on, their values seemed to be pointed only toward the earliest possible PHM decommissioning date.

On 28 April, over vigorous protest from the OPNAV and NAVSEA staffs, CINCLANTFLT released a message proposing a new decommissioning scheme whereby the six PHMs with elements of the MLSG and squadron staff would transit in company with *USS CLEVELAND* (LPD-7) to Bremerton WA, via a number of west coast port visits enroute. All ships would decommission on 30 July.

The rationale for this bizarre and expensive proposal was that the ships would be out of Key West during the hurricane season and to have Boeing’s “PHM expertise available to potential to potential FMS buyers. “ Some points that are worth reviewing:

- a. Although Key West’s weather is heavily influenced by hurricanes (34 percent probability of at least one hurricane within 180 miles per year), the fact is that in only 3 occasions since 1945 have winds in the area reached hurricane force (75 kts). The risk of having the (decommissioned) ships in Key West during the season had been investigated and deemed acceptable.

- b. The availability of Boeing at Bremerton would have been no more useful than the then existing Boeing presence at Key West.
- c. It was estimated that additional funding of about \$1M would be needed to execute this plan as opposed to the one earlier approved (cost of this approach was about \$100K). Moreover, this plan would have required more extensive preservation in 1993 than had been originally planned. \$2M had been programmed for this in 1994 as a hedge against a delayed FMS, but none in 1993.
- d. The 30 July decommissioning date would preclude any hope of a hot ship transfer.
- e. Finally, there was no space to store the decommissioned ships at the Naval Inactive Ships Maintenance Facility (NISMF) Bremerton.

Rationale to the contrary notwithstanding, in early May 1993 the OPNAV (N86) organization was on the verge of yielding to CLF/CNSL pressure to approve this course of action. At that time however, the CNO, ADM Frank Kelso II, announced that PHMs would not be offered for Foreign Military Sale, and were to be “mothballed” instead. This turnabout on months of inactivation planning was announced almost casually at a 7 May ship disposition meeting, much to the astonishment of the N86 staff. This decision, however arbitrary, had the net impact of ruling out the Bremerton option, since Boeing support for FMS transfer would no longer be required.

Based on the CNO announcement, and to accommodate the CLF/CNSL concern about hurricanes, the N86 staff approved a 6-ship transit to Little Creek, VA in June, to be followed by a joint decommissioning ceremony there on 30 July.

This ceremony was conducted as scheduled. Approximately 400 guests attended, many of whom had been involved in the PHM program from its infancy. Admiral H.H. Mauz, Commander-in-Chief, U.S. Atlantic Fleet, delivered the keynote speech in which he lamented the necessity of laying up these ships so early in their service life.

Subsequent to the decommissioning, the OPNAV staff recommended to the new Secretary of the Navy, the Honorable John Dalton, that the PHMs be stricken from the Naval Register. This is the common practice for ships that are not to be retained as mobilization assets. It allows the U.S. Navy to dispose of such ships by a variety of means; artificial reef program, donation as a memorial, and transfer to other agencies striking also reopens the possibility of Foreign Military Sales. SECNAV subsequently approved the request, but at the time this report was prepared, ultimate PHM disposition had not been established.

EPILOGUE

In fact the PHMs, having been stripped of all salvageable systems including electronics, turbines, diesel engines and the like, were sold as scrap to a commercial enterprise in Charleston, SC. One ship with foil systems intact was bought by B. J. Meinhof and Elliot James and transported to Missouri. Their ongoing efforts to restore it and to return it to use commercially are frequently discussed on the International Hydrofoil Society website. At this writing, the other

hulls (less foil systems and in generally poor states of preservation) are still in place in Charleston and offered for sale.

With the passage of time, I have become convinced that the PHMs were sacrificed to avoid cutting larger, more capable ships in the post-Cold War drawdown. If sheer numbers of combatants decommissioned was to have been the criterion, giving up six PHMs for, say, six *SPRUANCE* class destroyers would be smart trading. Unfortunately, the drawdown of the fleet extended far beyond such a simple calculus, and for a time it was planned to decommission all the *PERRY* class frigates (FFGs) and most, if not all of the *SPRUANCE* class destroyers (DDs) as well. Fortunately the flow was stanchied in the mid-1990's. The then CNO, ADM Mike Boorda, apparently recognized that a combatant force composed solely of *TICONDEROGA* class cruisers and *BURKE* class destroyers (DDGs), (still under construction) would be expensive to operate in some scenarios and would lack tactical flexibility due to limited numbers. He ordered the retention of around 30 FFGs to avoid having to commit capital ships to roles such as Counterdrug Operations and boarding-and-search operations in the Persian Gulf. Had we not disposed of PHMs so precipitously in 1993, they might have been retained for use in these roles, for which they were so superbly suited. – GJJ