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RE-Figuring the Figs (FFGs) -- for the Coast Guard.

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“We Love Them Not, We Hate Them Not.”

(From a poem by Ernst Lissauer)

When is Oliver Hazard Perry-class frigate (FFG) not an FFG? Why, when it is a Coast Guard cutter. Although not a true riddle, the question has been raised in numerous venues. The pros and cons are arterial and depend largely upon which branch of the Coast Guard asked the question. The discussions combine reality, wishful thinking and a desire for greater career opportunity, but all center about whether or not the FFGs would be acceptable, in any mission format, for Coast Guard use. Whether supporting or against the idea it is an interesting proposal. Just asking the question is an indicator of the Coast Guard’s direction for the next century.

Those supporting the idea center their desire largely on enhanced technology and ship speed. Both are responsible considering the current state of the Coast Guard’s aging fleet but the FFGs would also give the Coast Guard something it hasn’t had in fifteen years --ships with not only a multipurpose function but ships that could fight if needed. Technology aside, all the services are faced with an era of growing international policing and short budgets, the FFGs could make the Coast Guard a stronger and more useful adjunct naval service. The increase in prestige would strengthen the service’s public image as a naval service that has suffered in recent years since it has become a “maritime service.”

Although there are good and reasonable points for taking the FFGs into the Coast Guard, they are for the most part esthetic and solved with a new line of carefully thought-out and engineered Coast Guard cutters. Simply taking yet another hand-me-down class of ships is not what the Coast Guard needs, or requires, at this point in its history. The Coast Guard was fully aware of this in the 1930s when it designed a wonderful series of “first class cruising cutters,” such as the 327' Secretary Class, some of which lasted through three wars and more than 50 years of very active service.

On the other side, the FFGs have some failings that would preclude them from effective Coast Guard service. The first consideration is their age. The FFGs, built very much on the cheap, are quickly reaching the limits of their life spans. Although the present and former crews have managed to keep the FFGs running, it has been not only an expensive proposition but one of delicate balance between mission requirements and the availability of repair time. The FFGs need at least four months of concentrated repair availability every five or so years just keep pace with minimal repair and inspections. Despite of, and probably because of, these relatively infrequent repair periods, technical and structural problems mount. These problems would only magnify if transferred to the Coast Guard with its minimal funding and reduced crew sizes.

For a single FFG current costs for minimal internal repair and consumables alone are near \$1.7 million a year. The Coast Guard already suffers congressionally imposed inadequate funding. The Coast Guard's past performance for maintenance indicates support funding for the FFGs would be taken from older cutters making the older cutters more ineffective. It is possible the Coast Guard would receive a special appropriation for FFG support, but whatever appropriation allowed, it would not nor could not; match the amounts the Navy currently spends.

This is not conjecture, but the history of the Coast Guard since the end of World War II. It is not unusual for the Coast Guard to take naval vessels into its inventory; few have been of such advanced age as the FFGs. During the Prohibition Era the Coast Guard gladly accepted the “four-stack” flush deck former WWI destroyers and “Eagle” boats. Again in the late 1940s and early 1950s the Coast Guard accepted AVPs and DEs for ocean station patrols. Most of these were new vessels in comparison to the FFGs. Probably because of their relative newness; none received the funding to adequately support them. On average, the FFGs are reaching their thirteenth year of service putting them at mid point or on the backside of their planned life cycle. The Navy plans for all the FFGs to be out of United States service by 2014, but it is doubtful that most will reach this age. Most will be stricken from five and nine years earlier than the target dates. If the Coast Guard accepted any of the newer FFGs, it definitely wouldn’t want any of the older ones, into service; it should shed the FFGs in line with the Navy. This would be the most prudent and cost-effective feature of accepting the FFG in the first place. No FFG should be in Coast Guard service longer than it can be supported by the Navy.

There are other major difficulties in the FFGs include maintenance, weapons, auxiliary systems, and main propulsion. The least acceptable of the FFG systems to the Coast Guard is main propulsion. Although the gas turbine engines are not new to the Coast Guard, the LM 2500 differs from the Coast Guard’s FT4A-6 causing the need for interim Navy training personnel to train and monitor main propulsion. The Navy has several enlisted ratings that support the gas turbine engine but the Coast Guard has one for all its engine types. However, if engine differences were no major problem; fuel consumption may be. The Coast Guard has very conservative roots about the cost of fuel stemming from the nineteenth century coal burning cutters. Captains of these cutters had to fully explain their fuel consumption and were required to use the slower burning

anthracite coal unless quick speed was needed. The same concept is used today in all Coast Guard cutters but the prototype for the FFG, the *Hamilton(Hero)*-class cutters, can patrol for 14,000 miles at 11 knots on its diesel engines but in the same vein as bituminous coal, when called the gas turbines can be used for speed. The FFGs do not have this option. Although FFG turbine can run at trolling speeds, it is still running a gas turbine engine consuming greater amounts of fuel far greater than diesel engines. Greater consumption is not a large concern for the Navy that has a huge Naval Fuels support system-- something the Coast Guard does not. Even if fuel consumption was not a concern for the Coast Guard; the single propeller shaft would be. The Coast Guard, since the 1890s, has desired that its cruising cutters have twin shaft propulsion. Operating at times completely alone for weeks at a time, the Coast Guard cannot afford becoming disabled if the single shaft became inoperative.

Baring main propulsion and single shaft difficulties, the FFGs auxiliary systems its Achilles Heel. There is no redundancy in any of these systems making them crucial to ship operation. Keeping the auxiliary systems providing power, water, and air conditioning can be an engineering challenge for a fully manned crew and nearly impossible for reduced crew size. The Coast Guard, before considering the FFG, should review the maintenance difficulties of the ship's company of a reserve FFG. This would give a clearer indication of maintenance problems caused by reduced manning. The Coast Guard may have no serious problems keeping the basic support systems operating but only if some other equipment systems are eliminated or deactivated so that ship's company could meet minimal planned maintenance system (PMS) requirements.

Reduced manning principles are a reality on board new cutters. The outgoing Coast Guard Commandant, Admiral Robert Kramek, advocated using merchant marine manning techniques onboard Coast Guard cutters. The FFG is amply suited for reduced manning. Unmanned

engineering control stations and incorporating the “smart ship” concept the Coast Guard could, and probably would, reduce enlisted crew size to about 120 or less. The current navy manning, including officers, is about 180; over 200 with an aviation detachment. The Coast Guard could safely operate the FFG with as many as forty to fifty fewer enlisted personnel. Many of manned watches currently could be eliminated, automated, or downsized particularly in a peacetime environment.

Those systems to be reduced or deactivated to fit lowered manning levels would have no overall effect on ship performance. They would naturally include the MK13 launcher and magazine (to be replaced with the MK 45 5”/54), the 76mm gun system, all towed SONAR systems, much of the EW equipment could be deactivated, the RAST system, ship’s service laundry equipment (replaced with commercial type washers and dryers) and the SH-60 helicopter. Removal of the 76mm OTO Melara gun system would be a sound move. The FFG is the only class Navy vessel still using this system and once the Navy ceases using the FFGs all support for the system will cease as well. The deck space occupied by the 76mm could be used for two 25mm chain guns. The magazine could be made smaller and the space fitted for crew health and welfare.

Apart from major and auxiliary system difficulties the FFGs have, as they age, increasing difficulty in controlling corrosion. The aluminum superstructure is a constant maintenance problem and with smaller crew size would necessarily increase scheduled shipyard or dockside availability. This frequent repair and maintenance in turn would impact both training and deployments-- unless, of course, such maintenance was curtailed. Stability is a constant concern and slight shifts in fuel can produce a pronounced list on the FFG that may or may not be easy to correct. For the Coast Guard this stability problem is crucial. If a CG-FFG embarks 300 or more refugees where will they be placed to ensure ship stability? The CG-FFG may need its flight deck

leaving the foc'sle, the small center passageway, or the 01 level. The 01 level is unsuitable, as one FFG discovered during the late refugee operation in the Caribbean. The FFG placed about 120 people on its 01 level and this caused not only stability problems, but health and welfare concerns.

The stated purpose of acquiring the FFGs would be for putting a technologically advanced ship into the Coast Guard arsenal for the so-called Drug War. Boarding is a crucial element of that war. However, the FFGs carry only one RHIB. As has happened in the Persian Gulf interdiction operations, when the RHIB breaks down there is no other source from which to conduct visit, board, and search operations. The Coast Guard would necessarily have to modify the starboard side to accommodate another boat launching and recovery system. Indeed, some early artist's depictions of the FFG show a starboard side boat davit.

Habitability has been a Coast Guard concern since the late 1960s. It has been noted that the berthing compartments on the FFGs are not up to Coast Guard standards especially for females. With a smaller crew existing spaces such as those for the aviation detachment or supply berthing could be modified or compartments such as the RAST machinery space could be reconfigured to accommodate female crew members. The berthing problems are the least of the concerns.

On the whole the Perry-class FFG would not be a suitable interim medium for the Coast Guard. Hand-me-downs are just that; few rarely fit and quickly become out of style and more expensive to maintain. However, the Coast Guard can and should follow its past in new cutter design with an eye toward compatibility with Naval technology and engineering resources. This would eliminate the difficulties in supply and training now encountered by the *Hamilton*(Hero) and *Bear* Class cutters. As the nation's oldest continuous federal sea going and armed law enforcement service the Coast Guard needs to re-figure its thoughts about the worthiness of the

FFG. One author recommended putting a stripe on a FFG but it takes more than a slash to be a cutter. It takes a serious recognition of the service's past cutter design with an eye toward the future and develop something that has the Coast Guard character involved. An old Italian idiom holds that if something doesn't work then invent it. The FFGs may work marginally for the Coast Guard for a limited time but on the whole more invention is needed.