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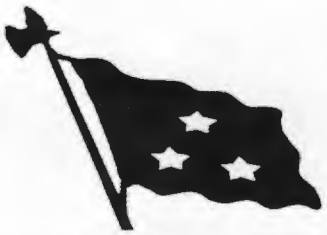
US NAVY

Surface Warfare



Message For The Fleet Sailor

On behalf of the entire surfare warfare community, it is my pleasure to congratulate CDR John G. Morgan Jr. and his crew on the commissioning of USS *Arleigh Burke* (DDG 51). These destroyermen invested long hours of concentrated effort to make the Navy's newest warship, and the first of a very capable class of Aegis guided missile destroyers, ready for service in the fleet. Their preparations and efforts make *Arleigh Burke* a much–valued addition to the finest surface Navy in the world. This issue of *Surface Warfare* is dedicated to that effort and the destroyer's namesake — ADM Arleigh A. Burke.

Arleigh Burke's motto — Fast and Feared — exemplifies the fighting spirit of the American sailor. Each day, as *Arleigh Burke's* crew honed their skills, they built the teamwork and professional expertise to the high standards of excellence and Viking warrior's heart of the man for whom she's named. They are the heart and soul of this great fighting ship; they carry on ADM Burke's legacy.

As we approach the 21st Century, we must continue to maintain a potent and flexible fleet to maintain our maritime superiority and guarantee the free use of the seas. *Arleigh Burke* will be one of the cornerstones of a fleet capable of responding in a wide range of contingencies across the globe. With the Aegis combat system as the backbone of *Arleigh Burke's* warfighting capabilities, this versatile surface combatant integrates Tomahawk, ASW, gun and Aegis weapons system with the same detect–to–engage capability as our Aegis cruisers. In short, her combat capabilities in all mission areas are unmatched. *Arleigh Burke*, our first Aegis combatant built from the keel up, marks the return to all–steel construction. The ship introduces a totally new integrated design that delivers massive firepower, high survivability, high–speed seakeeping and very low signatures. By any standard, the DDG 51–class guided missile destroyers will be more powerful and survivable than any destroyer ever built. These ships also carry extensive armor placed around vital command, electronic and machinery spaces and improved fire–fighting equipment to allow the ships to better withstand and repair battle damage. State–of–the–art protective systems guard against nuclear, biological and chemical agents, while the ship's hardened systems provide protection against nuclear and thermal blast. With *Arleigh Burke*, we are embarked on a steady course which builds a threat–responsive surface combatant force characterized by world–class offensive firepower and unmatched survivability.

This is also a time of transition; a time when we are hastening to review the surface warfare community's priorities and the surface combatant's role as we move from global war to regional conflict scenarios. In April, at the direction of CNO, the OP–03 staff initiated the destroyer variant (DDV) study. Its objective is to define an affordable DDG–51 variant which meets the peacetime forward presence and warfighting requirements of the 21st Century. Fiscal constraints make affordability a prime consideration in identifying these alternatives. At the same time, it is imperative that this ship contribute to the achievement of national security objectives.

The Navy needs to maintain a force of 12 aircraft carriers and about 150 surface combatants to meet future requirements for forward presence and to provide surge capability in the event of a crisis. Projections of surface combatant force levels show that we now need to define an affordable variant of the DDG 51. The DDV study will assess the ability of various affordable surface combatants based on the current DDG–51 hull, mechanical and electrical configuration as the basic platform and assess the potential for upgrading the ship to meet a new Soviet or other emerging naval threat. In conjuncton with the DDV study, two other studies, the Surface Combatant Operational Requirements Study (SCORES), which will establish required capabilities and force structure, and the Revolution At Sea 2000 Study, which will identify emerging technologies applicable to surface combatants, will help define the DDV's capabilities. The DDV study will be complete by late November so that its recommendations can be incorporated in POM–94 and ship construction can be planned for FY–98. A range of ship configurations will be examined with deficiencies and risks highlighted but aiming at getting the unit cost down to something less than DDG 51's Flight II cost today. Additionally, the study will explore some systems originally planned for Flight III of the DDG 51 class, such as full–service helicopter hangars, by optimizing either the AAW or ASW capability of DDG 51. However, we're also having the shipbuilding industry and others in the Navy determine ways to reduce construction costs before we remove capability from the ship.

On a more personal note, I have the sad duty of reporting the passing of one of my distinguished predecessors, VADM (Ret) Bob Walters, in July. His loss is felt throughout the surface warfare community he helped build and lead as DCNO(SW) from May 1981 to September 1984.

In closing , I want to assure you that the future for surface warfare is bright. We have a vital role and, if anything, it's growing — not diminishing. The surface Navy is getting better and more capable at its profession. Stay Ready!

R. K. U. Kihune
Vice Admiral, U.S. Navy
Assistant Chief Of Naval Operations (Surface Warfare)

Heritage Of A Naval Hero

By Scot MacDonald

The genesis of a current naval genius, ADM Arleigh A. Burke, flowed from the fiercest fighters of the world who raided the coasts of Europe and the British Isles from the 9th to 11th centuries, giving their name to that period — the Viking Age. Historians describe them as the best shipbuilders and sailors of the world.

Noted for their skillful seamanship, they unerringly aimed their sturdy and fearsome longboats at targeted ports from Greenland to North America. Dread of these Scandinavian warriors preceded their conquests, for wherever they landed they routed their enemy with such cruel ferocity the very word Viking was synonymous with harsh victory.

Out of this heritage in Colorado in the first year of this century was born a farmer's son who would become one of the most effective surface warfare officers of World War II, an original naval tactician, and an unprecedented three-term Chief of Naval Operations whose watch significantly changed the organization, composition and effectiveness of the U.S. Navy. Few naval officers have had such impact in the history of the naval service.

His early years aboard USS ***Arizona*** (BB 39) revealed his principal interest in guns, torpedoes and the director-control anti-aircraft gun system. "Burke was long overdue for a change of duty," wrote historian E. B. Potter in his biography of ADM Burke, "but ***Arizona's*** successive commanding officers held on to him because his experience in the plotting room made him an increasingly valuable officer."

The Bureau of Ordnance tapped him for his first shore tour "whenever the commander of Base Force was ready to release him and the Bureau of Navigation

Then CAPT Arleigh A. Burke, COMDESRON 23, reads on the starboard bridge wing of his flagship, USS *Charles Ausburne* (DD 570), during operations in the Solomons. Note the squadron's "Little Beaver" insignia on the side of the bridge.

to transfer him." At BUORD he was mainly concerned with the purchase, storage and distribution of ammunition and explosives. Appropriately, his first command was the destroyer USS ***Mugford*** (DD 389). Predictably, in the annual short-range battle practice, his gunners scored an unprecedented 36 hits with 36 shots.

When CDR Burke commanded Destroyer Division 43 in the spring of 1943, he drilled in cruiser-destroyer night battles. In March 1943, he blew up a Japanese destroyer while escorting a cruiser force in the central Solomons. He was asked by RADM Aaron "Tip" Merrill, leading surface commander during the Solomons campaign in WW II, to put in writing the tactical doctrine they had worked out in the employment of destroyers in night actions. Later, as COMDESDIV 44, he developed a plan calling for mutually supporting divisions, based on his study of the Punic Wars.

ADM Burke during his tour as the Chief Of Naval Operations.

"The tactics of Scipio Africanus particularly interested me as being sound, simple of execution, and adaptable to naval employment," E. B. Potter quotes ADM Burke in his biography. "The plan was based on hitting the enemy with one sudden surprise after another. This was accomplished by putting two destroyer divisions in parallel columns. One division would slip in close, under cover of darkness, launch torpedoes, and duck back out. When the torpedoes hit, and the enemy started shooting at the retiring first division, the second half of the team would suddenly open up from another direction. When the rattled enemy turned toward the new and unexpected attack, the first division would slam back in again. Of course, the Solomon Islands area was ideally suited to this type of tactic, with the many islands helping prevent radar detection of the second division."

American destroyer commanders had long been agitating to be released from the cruiser line so that they might use their torpedoes at close range, historian Potter wrote in *United States and World Sea Power*. CDR Burke, most vocal of the destroyer men, insisted that it must be done and called for "an act of faith" on the part of task force commanders. He demonstrated his worthiness with some of the smoothest ship handling thus far seen in the Solomons to prove the tactics correct. As his destroyer division swept past, officers used to tune in on his voice circuit for the pleasure and instruction of listening to his precise commands.

CDR Burke received orders in August 1942 to take command of DESRON 12 with the rank of captain. He had been relieved by CDR Frederick Moosbrugger who used Arleigh Burke's "Punic War" plan effectively in the Battle of Vella Gulf (*SW* Aug 79:2).

In late September 1943, DESDIV 46 was being assembled and would be added to DESDIV 45 to form DESRON 23, commanded by CAPT Burke. This move would support the invasion of Bougainville. Wrote Potter, "As commodore of DESRON 23 (Burke) would command the eight destroyers of Merrill's Task Force 39, earmarked to provide night cover for the forthcoming invasion. This would mean action at last, probably a major battle."

The action was fast coming and the battle was indeed a major one: the Battle of Empress Augusta Bay, 2 Nov 1943 (see *SW* June 81:26). Proceeding to his next engagement, the Battle of Cape St. George (*SW* Nov/Dec 89:6) the Commodore received the nickname "31-Knot Burke" and a sea victory that will forever be associated with his name. The Cape St. George and Empress Augusta Bay battle plans had been devised by CAPT Burke. Both victories were devastating to the enemy and successfully executed, with no damage to U.S. ships and no personnel casualties. The final score of Burke's *Little Beavers* squadron was the sinking of one enemy cruiser, nine destroyers, one submarine and several smaller vessels, in addition to some 30 enemy aircraft shot down.

CAPT Burke was abruptly ordered to become chief of staff to ADM Marc A. Mitscher aboard USS ***Yorktown*** (CV 10) and later USS ***Lexington*** (CV 16). The move mystified and disappointed him at the time, for his command experience had been in destroyers, but it proved a wise move — enlarging his knowledge of the Navy.

Following the war, he was selected by President Dwight D. Eisenhower to become Chief of Naval Operations in 1956 and remained there for an unprecedented three terms.

The Honorable Dick Cheney, SECDEF, best summed up ADM Burke's influence as CNO in his comments at USS ***Arleigh Burke's*** (DDG 51) commissioning. "You all know ADM Burke for his heroic wartime service during WWII and his leadership during the Korean War. I want to say a word today about another contribution — his tenure as Chief of Naval Operations during the pivotal years of the Cold War. In that critical period, ADM Burke took a long-range view, working for a balanced, versatile Navy — one that had effective carrier air power, the first strategic nuclear submarine force, and a modernized surface fleet. His vision ensured we had the total force structure we needed to deter world war and protect American security, whatever the crises to come.

"ADM Burke is admired for his foresight. But I doubt whether even he knew how long his influence would be felt. Four of the aircraft carriers that we relied on during DESERT SHIELD and DESERT STORM were launched or planned under ADM Burke's leadership, 30 years ago. And he gave us the A-6 Intruder, one of the workhorses of the Gulf air campaign. ADM Burke and those he inspired have made our Navy the finest in the world."

Through it all, he never lost his love for the life of a destroyerman. During a 1984 interview, ADM Burke told readers of Bath Iron Works' *The Long Glass*, "I liked destroyers because they were active, they were combat ships, and for the young officer, they were an opportunity for command. You knew everybody in the ship; there were only a couple of hundred people in the ship, instead of the large numbers.

"Also, you learned a lot faster in destroyers. You had to, with the smaller number of officers and greater duties. For example, the gunnery officer of a destroyer has full responsibility for the operation of his guns. There are not as many guns, but he has them all. The same thing is true of an engineering officer or any other billet.

"The destroyer was invented many years ago, when steam propulsion came into use, because of a need for a fast ship, comparatively heavily armed, that could do a great deal of damage, but had to be cheap. It had to be manned by a few sailors. It could support a lot of other ships, or it could operate alone. And it could be used for various functions — a multipurpose ship. When the submarines came in, destroyers were the primary antisubmarine force; when aircraft came in, they were also assigned the task of being anti-air. They had torpedoes and guns, but they could also operate by themselves, and create havoc with an enemy under a great many conditions. When things got tough, they sent in the destroyers. A destroyer can do damage. It can do it on a very cost-effective basis that few other types of ships can match."

Earlier, he announced, "We are destroyermen! A big man would have trouble filling our shoes. We like to think we would have no trouble filling his. We have learned the lesson of self reliance, of not being afraid of a little rough living or any tough assignment. We are real sailor men, the destroyer men of the fleet. When things are getting too hard for anyone else, they're just getting right for us."

These words seem to echo the war cry of the original fighting Vikings.

ADM (Ret.) Burke models his new surface warfare sweater in 1985. Photo by PH3 Steve Russ

The inability of American friends to correctly pronounce his name prompted Anders Bjorkgren, a 23-year-old apprentice baker newly arrived from Sweden in 1857, to change his name to August Burke. He moved to Denver, married and had six children. His second son, Oscar, married a school teacher, Clara Mokler, who on 19 October 1901 bore him a son they named Arleigh Albert.

Wit And Wisdom From *Uncle Arleigh*

Ships' Names

"The Secretary (of the Navy) proposed that they name a ship after me, and I said, no, I didn't want to, because there was a precedent that ships were named after people who were dead. And I didn't want to qualify."

Command

"The only way you can fight a battle is to let the man who is in the battle fight it and support him as much as you can. You cannot fight a battle by controlling from a long distance away from the scene."

"The audacious commander almost automatically has a superior force. The dash of the commander is transmitted to the forces; they become always ready and eager to go; they have a fighting edge. The conservative commander, whose tendency is to be sure before he strikes, breeds that same spirit in his force. His command rapidly reaches a point of reluctance to fight."

"The great captain must be able to project his personality so that his entire command feels they know him and follows him as an individual. The larger the command, the more flamboyant and theatrical the personality must be, to project the greater distance. We find examples of the truth of this in comparing Jeb Stuart and Jackson with Longstreet and Hill; Halsey with Spruance; Patton with Bradley."

Combat

"Non-battle orders: NONE. Corrections to this section will not be permitted." — Doctrine for DESRON 23 in World War II when commanded by CAPT Burke.

Destroyers

"Now you can't make a multipurpose ship supreme in everything, because you get a great big beast, and it's too expensive, too complicated: but you can make it good in everything. Maybe it can't go up against a ship that's built for a special purpose . . . . But a destroyer can do damage. It can do it on a very cost-effective basis that few other types of ships can match."

Duty

"A seaman down by himself, in an emergency steering gear room, is important only in the grave emergency that the steering gear goes out on the bridge . . . . If he was looking out for himself, he'd go topside, and when the emergency came, there wouldn't be anybody there. They never do that. They are there."

Maintenance

"If the equipment doesn't work in battle, it doesn't make much difference how much else the officers know, the battle is lost."

Work

"The only man who ever had his work done by Friday was Robinson Crusoe."

Training

"This ship is built to fight — you had better know how."

Officers

"I sometimes think the difference between a good officer and a poor one is about 10 seconds."

Reality

"Reality is a very demanding mistress. And if you ignore something, and hope that it will go away, or don't want to tackle a problem because it is difficult and because it makes you unpopular, then you lose."

Editor's Note: *As CNO, ADM Arleigh Burke would put down his thoughts on a variety of Navy topics and send them out to the fleet. These words of wisdom and fatherly advice were always signed "Uncle Arleigh."*

The Little Beavers And The Doctri

"No stronger or better words about combat have been written than ADM Burke's to surface warriors: 'This ship is built to fight — you had better know how.' The second part of the admiral's statement is the execution part of his signal to us. And execution means tactics. The following article is reprinted to emphasize that reality and to make clear that the surface warrior must always 'think tactics.' **— VADM R. K. U. Kihune**

Introduction By CAPT Wayne Hughes Jr.

Sometimes by living long enough a venerable leader acquires a reputation that is larger than life. With ADM Arleigh A. Burke that's not possible. He is just what we now think he was, great in war and peace, forceful, decisive, thorough in planning, bold in action, imaginative, a careful listener and an irresistable communicator. If one goes back and reads the commentary of his contemporaries — (historian) S. E. Morison who saw him in action, (ADM's) Halsey and Mitscher whom he served, all the journalists on the scene in the Pacific, his peers, and those who served him —there is never a gray cloud of doubt, no shadow of reservation, just unstinting admiration.

After the war, Burke was in the tight band who in 1949 fought off Air Force domination in "the revolt of the admirals." He was picked from well down in the Rear Admirals list and made CNO in 1955, with so far as I know, scarcely a whimper of protest from his former seniors. He served six years until 1961, during the heyday of the Navy's operational success in keeping the peace around the world. One of his great achievements was to blend (ADM) Raborn's missile technology with (ADM) Rickover's nuclear propulsion to achieve a fleet of Polaris submarines in so short a time as to be scarcely imaginable today.

But it is Burke as tactical commander that LT Mark Phillips writes about. When then CAPT Burke arrived in the South Pacific in February 1943, we had fought five night battles around Guadalcanal with results that varied between mediocre and disastrous. At this time we had a radar advantage which let us surprise the Japanese repeatedly with little or no show for it. What was the problem? It was that we were using line tactics designed for long range daylight gunnery duels. At night and at short range, the torpedo was the killing weapon.

You see this when you consider that a column, optimized to bring all guns to bear, presented about 100 yards of hull for every 600 yards or so of column. The Japanese could see our gunfire and could hardly fail to place their torpedoes somewhere between the endpoints. They had a one-in-six chance of hitting with every "fish." When they put 40 in our general direction, they could expect six or seven hits, and the record shows that they got them. If we had exposed our beams only for the short time it took to launch torpedoes, we would have halved our gunpower but reduced our vulnerability by a factor of ten, which is roughly the length-to-beam ratio of a destroyer or cruiser. We forgot that combat is force against force. The ideal you seek is not maximum delivery of ordnance alone but maximum delivery on target over a ship's time in combat.

That is what Burke saw. Nimitz had emphasized training as the key, but what tactics to train to? While he worked up his DESRON 22 (DESRON 23 was later) he thought about tactics. Here was his assessment: "Actions will be at night; during the day airpower rules the waves. Night means action at close quarters. In fact, for our destroyers the closer the better because the torpedo is the decisive weapon; theirs is better than ours, but ours is good enough if we use radar to hit first and they can't hit back. When the war started we foolishly took torpedoes off our cruisers. Therefore destroyers, not cruisers are our decisive weapon in these night actions: ten fish on 2100 tons are worth more than nine 8-inch guns on 10,000 tons. With radar we have surprise, so let's exploit it. Divide our force for maneuverability, but do it so that all elements support each other. Hit the enemy first with one arm (using torpedoes, of course, and no gunfire to warn him). Then hit him with the other arm from an unexpected direction while he's reeling from our first punch. Change direction to mess up his torpedo solutions and never show him a beam aspect. If we work it right, our radar and surprise are worth more than his more powerful, more numerous torpedoes."

Now let LT Phillips carry on the story of what happened — before Burke arrived, and after.

CAPT Wayne Hughes Jr., USN (Ret) is the author of Fleet Tactics: Theory and Practice, *(1986, Naval Institute Press) the universally highly recommended treatment of this essential subject. CAPT Hughes is an adjunct professor at Naval Postgraduate School, Monterey.*

ne Of Faith

By LT Mark Phillips

CAPT Burke's flagship, USS *Charles Ausburne* (DD 570), in action. Painting by CAPT Gerard Richardson.

When then CAPT Arleigh A. Burke led DESRON 23 into battle as its commodore, he put into action a battle plan known as the "Doctrine of Faith." By employing Burke's faith doctrine the ships of his squadron 23, nicknamed the Little Beavers, exalted the name "destroyer" during combat action in World War II. Their success in a series of operations against Japanese naval forces and shore installations played a large part in winning the Solomon Islands.

It was as commodore of DESDIV 43 that CAPT Burke had laid the groundwork for his doctrine which recommended new tactics for the employment of destroyers operating with cruiser task forces. With American and Japanese forces repeatedly locking horns in waters surrounding the Solomons, CAPT Burke saw these changes as a subject of tactical immediacy.

Tassafaronga and Savo Island

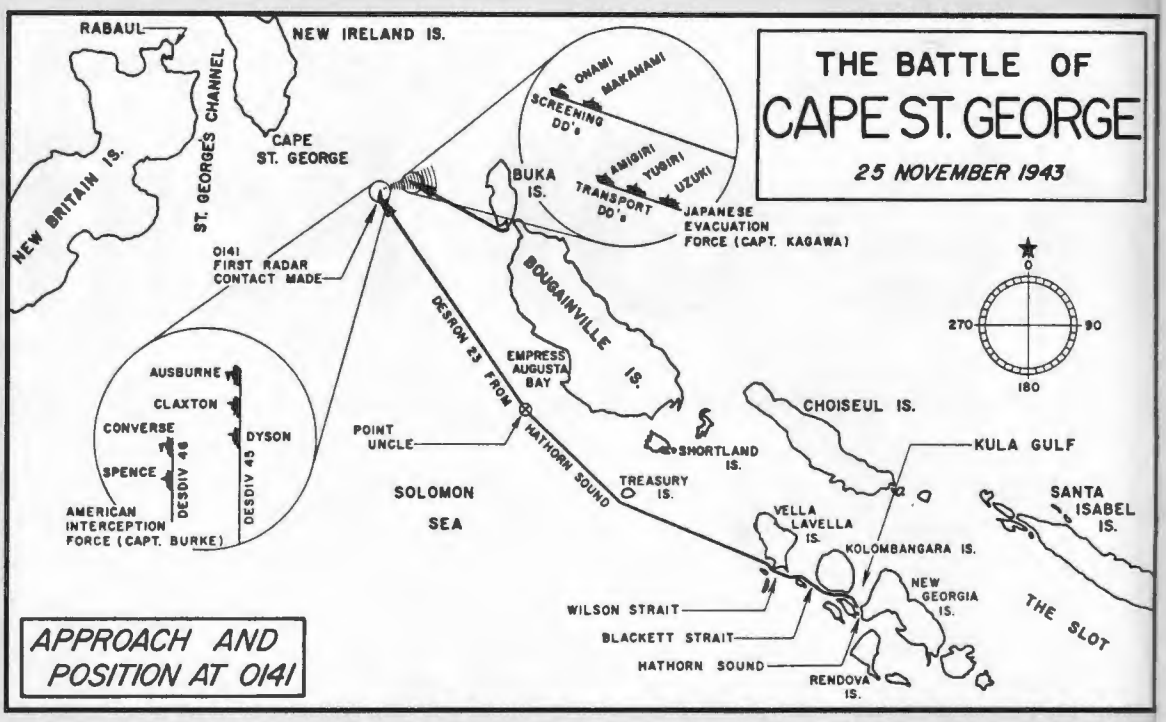
Two sea battles during the war impacted greatly on CAPT Burke's thinking and played an important part in the way he was to fight his destroyers. Those were the Battle at Savo Island on 9 August 1942 and the Battle of Tassafaronga ("Night of the Long Lances") on 30 November 1942. The Battle of Savo Island was a surprise night attack by an eight-ship Japanese task force which defeated a confused 15-ship Allied task group screening Savo Island.

When the battle was over, four heavy cruisers; USS ***Astoria*** (CA 34), USS ***Quincy*** (CA 39), USS ***Vincennes*** (CA 44) and the Australian HMAS ***Canberra*** had been lost and over 1,500 sailors had perished. There were no reported Japanese casualties.

At Tassafaronga, Guadalcanal Island, a resolute and skillful Japanese force consisting of eight destroyers and aided by their fast and deadly torpedo, nicknamed the Long Lance, administered a tactical defeat to an 11-ship U.S task group (six DD's and five CL's). Although the battle prevented the Japanese from executing a major reinforcement of their troops on Guadalcanal, one heavy cruiser was sunk, USS

Northampton (CL 26), three heavy cruisers were knocked out of the war for a year, and more than 400 sailors were killed.

CAPT Burke, who understood the value of time in battle, concluded that one reason for the losses was a cautious task force commander who, for four fatal minutes after contact with the enemy, withheld permission for his destroyers to launch torpedoes. A favorite saying of CAPT Burke was "The difference between a good officer and a poor officer is about 10 seconds."



Therefore, when CAPT Burke wrote his doctrine on destroyer operations with cruiser task groups, he ended it with — "When contact with an enemy force is made, destroyers in the van should initiate a coordinated torpedo attack WITHOUT ORDERS. . . . This last recommendation is the most difficult. The delegation of authority is always hard and . . . where such delegation of authority may result in disastrous consequences if a subordinate commander makes an error, it requires more than that which is usually meant by confidence: ***IT REQUIRES FAITH.***"

Esprit de DESRON

Commodore Burke's aggressive battle plan covered all aspects of what the squadron was expected to do in a fire fight. Under non-battle orders he wrote "none." All DESRON 23 CO's were thoroughly familiar with his plan and he welcomed any suggestions to better it. CAPT Burke's vision to employ destroyers better not only required established doctrine, it required teamwork. He instilled confidence in his CO's, a faith which was transmitted to all hands.

As a result, he succeeded in accomplishing what he had set out to do and what few other task force commanders had done before him — in the words of FADM William F. "Bull" Halsey: "develop a spirit which extends beyond the individual ship to create a sense of pride in and loyalty to, the entire squadron."

Battle of Empress Augusta Bay

DESRON 23's support of the invasion of Bougainville Island in the Solomons began with the shore bombardment of airfields and gun batteries. In the early morning of 1 November 1942, American troops stormed ashore at Empress Augusta Bay on the island of Bougainville. Intelligence information indicated that a Japanese naval group had sortied towards Bougainville to attack the ships transporting Marines.

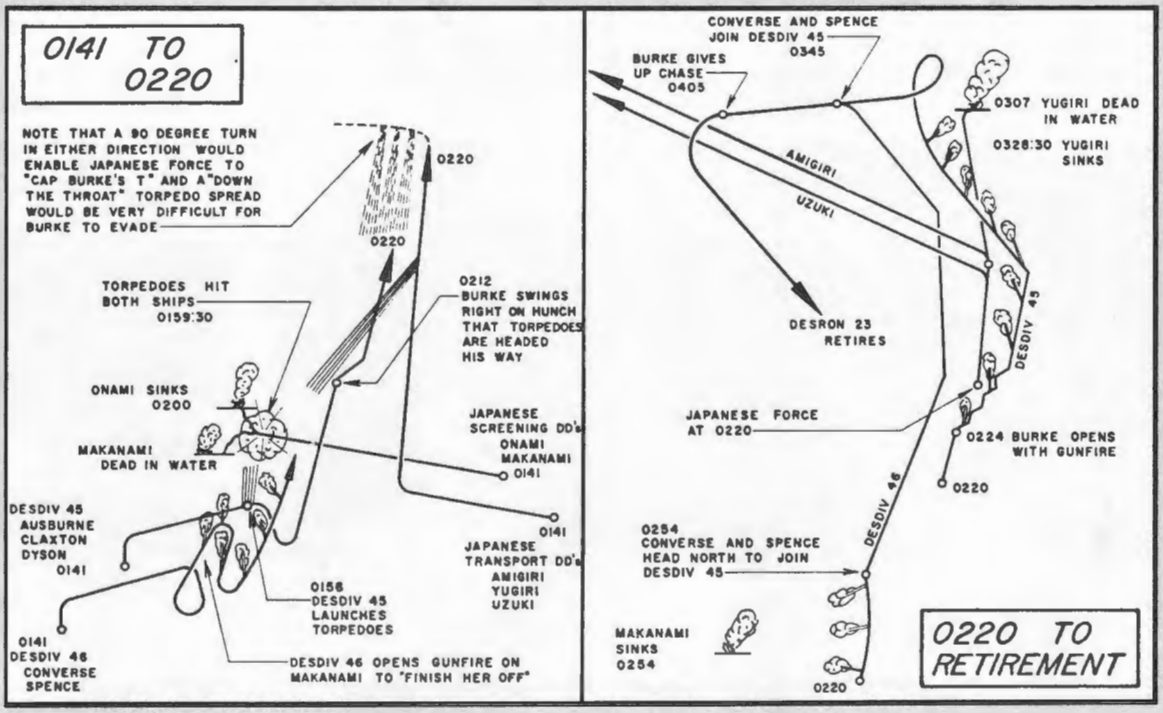
Task Force 39, commanded by RADM "Tip" Merrill, was immediately sent to meet and engage the enemy. CAPT Burke's DESRON flagship, USS ***Charles Ausburne*** (DD 570), in the van of the 12-ship formation, made first contact with enemy ships on radar at 0231 on 2 November and CAPT Burke radioed RADM Merrill, "I'm heading in!"

With this his flagship plus USS ***Dyson*** (DD 572), ***Stanly*** (DD 478) and ***Claxton*** (DD 571), CAPT Burke maneuvered his four "Little Beavers" for attack. The other four ships of DESRON 23, USS ***Spence*** (DD 512), USS ***Thatcher*** (DD 514), USS ***Converse*** (DD 509) and USS ***Foote*** (DD 511), were to remain with the cruisers USS ***Montpelier*** (CL 57) USS ***Cleveland*** (CL 55) and USS ***Columbia*** (CL 56) to protect the rear of the formation.

CAPT Burke's first torpedo attack, unknown to the enemy, was evaded when the Japanese ships made radar contact and maneuvered unsuspectingly towards the U.S. cruisers.

With the enemy bearing down, the cruisers opened fire and the lead Japanese cruiser ***Sendai*** was set ablaze. CAPT Burke's four destroyers returned to the fight, sank ***Sendai*** with gunfire, then proceeded at high speed to tangle with the destroyer ***Hatsukaze.*** ***Spence*** joined the attack, and ***Hatsukaze*** was sent to the bottom.

While screening the U.S. cruisers, ***Foote*** suffered a torpedo hit. It was CAPT Burke's rule never to abandon a crippled ship, and sometime during the heat of battle one of the squadron ships steamed around the



Diagrams of the Battle of Cape St. George are from *Destroyer Squadron 23* by Ken Jones, reprinted with permission from the Chilton Book Co.

stricken ***Foote,*** and laid a smoke screen which completely masked the destroyer.

After three hours of battle, the remaining eight Japanese ships, severely damaged, fled and the amphibious landings at Bougainville were safeguarded. As dawn broke, Task Force 39 beat off a 100-plane attack, destroying 20 planes, and by the next day was in port in Tulagi. ("Victory at Vella", *SW* Aug 79:2, tells of COMO Moosbrugger's innovative destroyer tactics based on CAPT Burke's pre-written plan.)

The Perfect Battle

On Thanksgiving Day, 25 November 1943, the Little Beavers were at sea again and engaged in battle south of Cape St. George off New Ireland Island in the Solomons. Dubbed "the perfect battle," the Battle of Cape St. George proved the prowess of the CAPT Burke and the Little Beavers.

With only five of his destroyers available (***Foote*** was recovering from previous torpedo damage, ***Thatcher*** was sent stateside for engineering repairs and ***Stanly*** was detached for towing duty), CAPT Burke sortied as ordered by FADM Halsey on 24 November to intercept a Japanese naval task group.

At 0141 the following morning, ***Spence*** reported radar contacts off the starboard bow of the formation at 22,000 yards and the Battle of Cape St. George began. As the unsuspecting five-ship enemy task group headed westward, CAPT Burke turned his formation to the east and prepared to launch torpedoes. When the targets were in range, ***Ausburne, Claxton*** and ***Dyson*** fired torpedoes.

CDR Luther K. Reynolds, CO of ***Ausburne,*** wrote in his Action Report saying it was "a destroyer officer's dream." Consequently, two enemy destroyers, ***Onami*** and ***Makanami,*** were hit and the remaining three, ***Yugiri, Amigiri*** and ***Uzuki***, fled northward. Of the two ships torpedoed, ***Onami*** sank immediately and ***Makanami*** was set ablaze. In accordance with CAPT Burke's doctrine, the rear destroyers, ***Converse*** and ***Spence***, finished off the damaged destroyer with gunfire and sank her while the other Little Beavers sped after the remaining, fleeing ships.

CAPT Burke's ships caught up to ***Yugiri, Amigiri*** and ***Uzuki*** and managed to hit and sink ***Yugiri*** with gunfire. The other two Japanese ships fled westward at high speed.

Shortly after the Battle of Cape St George, CAPT Burke was transferred. But he had left his mark. The fighting spirit of American destroyermen was brought to a blazing roar. Taking the fight to the enemy, in his aggressive, tactically sound, well-schooled professional way, CAPT Burke proved that U.S. destroyermen could fight their ships to win.

CAPT Wayne Hughes suggests a richer legacy that extends from the battle of 46 years ago to those surface warriors who today man the Navy's combatants and most specifically who will man the DDG 51.

Burke and the Little Beavers are credited with one Japanese cruiser, nine destroyers, a submarine, several smaller vessels and close to 30 aircraft. But Burke's service was more than a box score; it was leadership, resolve, inspiration and strength in the destroyerman's great hour of testing.

His namesake, DDG 51, has a reputation to uphold. If a ship is its crew, then every officer aboard has a standard to strive for and every petty officer has the inspiration of the Little Beavers to guide him.

The Big Chiefs

By Scot MacDonald

Of The *Little Beavers*

It was the afternoon of 25 October 1943 and the war in the Pacific was not going well. All eight destroyers of Destroyer Squadron 23 were at last nested together. With the kind of odd logic the Navy sometimes finds useful, DESRON 23 was made up of four destroyers of Destroyer Division 45, plus four from Destroyer Division 46.

It was at Purvis Bay, Florida Island, across Ironbottom Sound from Guadalcanal, that CAPT Arleigh Burke, now squadron commodore as well as COMDESDIV 45, had boarded the squadron flagship, USS ***Charles Ausburne*** (DD 570). Now he needed to confer with his captains and, in a tradition at least as old as Horatio Nelson's exchanges with his officers, meet face to face with each to gauge the man and assure himself that each understood his battle doctrine.

Shown above are CAPT Burke and some of the commanding officers of DESRON 23 enjoying a beer at the "Cloob DESSLOT," Purvis Bay, Solomons. From the left are CDR R.A. Gano, CO of USS ***Dyson*** (DD 572), CDR L.K. Reynolds, CO of USS ***Charles Ausburne*** (DD 570), CAPT Burke, CDR B.L. "Count" Austin, COMDESDIV 46, CDR D.C. Hamberger, CO of USS ***Converse*** (DD 509),unidentified officer and CDR H. J. Armstrong, CO of USS ***Spence*** (DD 512).

The captains of the Little Beavers were in their mid-thirties in age, a typically mixed lot in experience, and professionally esteemed enough by the Navy to get command of a destroyer where the sea war was hot. The Little Beavers of DESRON 23 had come together to make Navy history.

Historian E. B. Potter describes how the name for the renowned band of surface warriors was chosen that day:

"As the commodore (Burke) came over USS ***Claxton's*** rail, he was met by her captain, CDR Herald Stout . . . the destroyer's logo, painted across the front of her bridge: a pair of tumbling dice underlined with the words "*Click With Claxton.*" Burke took that irregularity in stride, but he was brought to a standstill by what he saw painted on one of the torpedo tubes: a small Indian wearing only moccasins, a headband with feather and an outsize G-string while firing an arrow into the posterior of a Japanese character labeled Tojo. Burke recognized the Indian as Little Beaver, the pint-sized chief of staff of one Red Ryder.

"'You know, Stout,' said the commodore, 'that's what this squadron needs. We need an insignia — a trademark that all ships can be proud of.'

"'Well, why not the Little Beaver, Commodore?'

"'It's good enough for me,' said Burke."

And so it was done.

✪ CDR Luther K. Reynolds, commanding ***Charles Ausburne,*** had graduated from the Naval Academy in the class of 1926, as did four of the six other CO's of the squadron. His first sea tours were aboard USS ***Mississippi*** (BB 41), USS ***Nitro*** (AE 2), USS ***Bainbridge*** (DD 246) and USS ***Pillsbury*** (DD 227). After duty in hydrographic matters and USS ***Yorktown*** (CV 5) in 1937, he took command of USS ***Barry*** (DD 248) and was then ordered to command ***Ausburne.*** CDR Reynolds earned his second Navy Cross and the Bronze Star Medal with Combat "V" while commanding DD 570.

✪ CDR Roy A. Gano, commanding USS ***Dyson*** (DD 572) was a classmate of Reynolds. He joined USS ***Tennessee*** (BB 43), serving aboard for three years until ordered to USS ***John D. Edwards*** (DD 216), followed by duty in USS ***Edsall*** (DD 219), USS ***MacLeish*** (DD 220) and USS ***Dewey*** (DD 349). He served on the staff of COMDESRON NINE and COMDESBATFOR. He took command of ***Dyson*** at the ship's commissioning and sailed to become a unit of DESRON 23. He earned his second Navy Cross and the Bronze Star Medal with Combat "V" for actions while in command of ***Dyson.***

✪ CDR Robert W. Cavenagh, commanding USS ***Stanly*** (DD 478) also graduated from the Naval Academy in 1926, and was assigned to USS ***Arkansas*** (BB 33), and then USS ***Niagara*** (PY 9). This was followed by submarine training, service in SUBDIV 20 and duty in USS ***Argonaut*** (V-4/SM 1). He returned to submarine duty, ultimately commanding USS S-41. In August 1940 he reported to USS ***Brooklyn*** (CL 40), and commanded USS ***Dahlgren*** (DD 187), used as an experimental engineering and sonar training vessel. In December 1942 he was ordered to the Pacific War Area and shortly after took command of ***Stanly,*** during which he earned the Navy Cross.

✪ CDR Herald F. Stout, commanding USS ***Claxton*** (DD 571), was also in the class of 1926. He reported to USS ***Cincinnati*** (CL 6). In June 1931, he reported to USS ***Breckenridge*** (DD 148) and then to USS ***Hatfield*** (DD 231). In June 1936 he returned to sea in USS ***Elliot*** (DD 146). He attended Mine Warfare School and then took command of USS ***Breese*** (DM 18) which at Pearl Harbor, when the Japanese attacked, downed one enemy bomber. In September 1942, he took command of ***Claxton*** and was awarded his second Navy Cross.

✪ CDR Bernard L. "Count" Austin, COMDESDIV 46, was commodore of ***Spence, Thatcher, Converse*** and ***Foote.*** He attended the Citadel Military College at Charleston, S.C., before his appointment to the Naval Academy where he graduated with the class of 1924. Historian Clark Reynolds describes him as "one of the most distinguished destroyer commanders in World War II." The Count went on to temporary duty under instruction at the Naval Gun Factory in Washington, D.C., the Naval Proving Ground in Dahlgren, Va., and the Naval Powder Factory at Indian Head, Md., before reporting aboard USS ***New York*** (BB 34). Training in submarines at Newport's Naval Torpedo Station, he then operated out of Pearl Harbor in submarines R-10/SS-87 and R-6/SS-83. In February 1942 he took command of USS ***Woolsey*** (DD 437), sinking the U-173 during the North African landings, and was awarded the Bronze Star Medal with Combat "V". In December 1942 he commissioned USS ***Foote*** and escorted a convoy to Casablanca before moving to the Pacific in May as COMDESDIV 46, with his flag in ***Spence.*** Austin shifted to the ***Converse*** and with the ***Spence*** performed brilliantly against the Japanese force at the Battle of Cape St. George. For services in that command in the Solomon Islands area, he was awarded his second Navy Cross and the Presidential Unit Citation.

✪ LCDR Henry J. Armstrong Jr., commanding USS ***Spence*** (DD 512), graduated from the Academy in 1927. Before WW II he served aboard USS ***Medusa*** (AR 1), USS ***Colorado*** (BB 45), USS ***Henshaw*** (DD 278), USS ***Pruitt*** (DD 347), USS ***Saratoga*** (CV 3), USS ***Fairfax*** (DD 93), USS ***Nakomis*** (PY 6) and USS ***Oklahoma*** (BB 37). He took command of USS ***Waters*** (DD 115) in 1940, and in 1941, the ***Spence.*** He was awarded his second Navy Cross and the Bronze Star Medal with Combat "V" for his actions.

✪ LCDR Leland R. Lampman, commanding USS ***Thatcher*** (DD 514), graduated from the Naval Academy in 1927 and served in USS ***Wyoming*** (BB 32), and in USS ***Tulsa*** (PG 22). He then served in USS ***Guam*** (PG 43) in the Yangtze River Patrol until 1931 when he reported to USS ***Lexington*** (CV 2). He returned to the Academy for additional instruction, then to the Marine Corps School before reporting as XO in USS ***Tattnall*** (DD 125) and USS ***Dallas*** (DD 199). In 1941, he took command of USS ***Ellis*** (DD 154) and then ***Thatcher*** in February. He earned the Navy Cross during his service with the Little Beavers.

✪ LCDR DeWitt C. E. Hamberger, commanding USS ***Converse*** (DD 509), was the son of Chief Carpenter's Mate William Hamberger who had been awarded the Congressional Medal of Honor for distinguishing himself during the Boxer Rebellion. ENS Hamberger graduated from the Naval Academy with the class of 1926 and served in USS ***Omaha*** (CL 4), USS ***Sloat*** (DD 316), USS ***Langley*** (CV 1), and USS ***Chicago*** (CA 29). After a year at the Naval Observatory, he reported to USS ***Claxton*** (DD 140) for a six–month patrol off Cuba during the Batista Revolution. In 1936 he was a plankowner in USS ***Moffett*** (DD 362). He reported as XO aboard USS ***Upshur*** (DD 144), sailing Neutrality Patrols. On 13 December 1941 he took command of USS ***Decatur*** (DD 341) and subsequently the ***Converse.*** In ***Converse*** he earned Navy Cross medals for his part in the Battle of Empress Augusta Bay and the Battle of Cape St. George.

✪ LCDR Alston Ramsay, commanding USS ***Foote*** (DD 511), Naval Academy 1927, served in USS ***Utah*** (BB 31) and USS ***Blakeley*** (DD 150). Serving in the Asiatic Station, he had duty aboard USS ***Ashville*** (PG 21) and USS ***Stewart*** (DD 224) until assigned to USS ***Richmond*** (CL 9). In June 1937 he assumed command of USS ***Tamaroa*** (AT 62). The following year he served aboard the carrier ***Saratoga*** and in 1940 was XO of USS ***Elliot*** (DD 146). On 20 May 1943 he took command of ***Foote.*** His ship, damaged during the Battle of Empress Augusta Bay, was returned to San Francisco for repair. He then sailed to the vicinity of Leyte and joined a carrier task force. Two Kamikaze aircraft made runs on ***Foote*** but were shot down. Later, ***Foote*** took part in the initial landing at Lingayan Gulf. He was awarded the Silver Star Medal and the Bronze Star Medal with Combat "V", among other decorations.

Each of Arleigh Burke's captains went on to complete distinguished careers both in subsequent wartime and peacetime service.

Born On The F

By James R. Giusti

Under a brief summer cloudburst, a new generation of Navy destroyers entered the fleet.

On 4 July, USS ***Arleigh Burke*** (DDG 51) began her naval service with her namesake ADM Arleigh A. Burke and his wife Bobbie, the ship's sponsor, standing by at commissioning ceremonies in Norfolk's Town Point Park.

CDR John G. Morgan, ***Burke's*** first commanding officer, read the traditional first orders to set the ship's watch and make her "come alive." 320 officers and enlisted, in full dress whites, raced aboard in single file and manned the starboard rails as Anchors Aweigh was played.

"From the leadership that inspired it, to its precision firepower, advanced Aegis combat system and outstanding crew, USS ***Arleigh Burke*** reflects the quality force we are looking toward in the years ahead. . . a force with the capability required to project our power where it's needed and the technological edge it takes to maintain control of the sea," said the Honorable Dick Cheney, SECDEF, the principal speaker.

Burke, the lead ship of the Aegis destroyer class, is named in honor of ADM Burke, who won the nickname "31-Knot Burke" for his exploits as commander of the legendary "Little Beavers" destroyer squadron (DESRON 23) and who helped shape today's Navy while serving an unprecedented, and still unmatched, three consecutive terms as CNO.

"May this ship do her duty for many years. May she have good luck in all her endeavors," said ADM Burke.

His presence at the commissioning ceremony marked the first time in Navy history that a ship's namesake witnessed her commissioning. He is only the third living

Fourth Of July

Shown underway, USS *Arleigh Burke* (left) came "alive" as officers and enlisted ran aboard during her July 4th commissioning. Her namesake, ADM (Ret) Arleigh Burke and his wife, Bobbie, the ship's sponsor (below) are flanked by CDR John G. Morgan Jr, *Arleigh Burke's* CO and ADM Frank B. Kelso II, CNO. ADM Burke's presence at the ceremony marked the first time in Navy history that a ship's namesake witnessed her commissioning. Photos courtesy of BIW and GE Aerospace.

person for whom the Navy has named a ship. (Georgia Senator Carl Vinson and ADM Hyman G. Rickover were the other two.)

"The decision to name this ship after our greatest living naval hero was not entered into lightly — let's face it, if you named a ship after Arleigh Burke, it had better be good . . .," said ADM Frank B. Kelso II, CNO. "This destroyer embodies his vision and his foresight, as well as his indomitable fighting spirit."

"Balanced, flexible, tough, and survivable, this classic destroyer is the high-tech surface combatant that will lead the fleet into the 21st century," added CDR Morgan.

Building A Fighting Spirit

In the service life of a ship her launching and christening endow individuality on her and her crew. Her commissioning is a benchmark in her history — it's the threshold for a productive career.

Many developmental milestones must pass before a newly-launched ship is completed and considered ready for commissioning. The engineering plant, weapons and electronic systems and a multitude of other equipment required to transform the empty steel hull into an operating and combat-capable warship must be installed and tested. The prospective CO and ship's officers and enlisted report for training and intensive familiarization with their new ship. Crew and ship must function in total unison for maximum combat effectiveness to be realized.

Even today's most modern man-of-war embodying every advantage of advanced technology is only as good as those who man her. It's the sailors of a ship's precommissioning (PRECOM) crew and the time they spend together completing her, putting in place her professional training and laying the traditions that become her heritage, that breathe life into her — and that spirit lasts long after they depart. In fact, they determine the performance of that ship, to a large degree, for the remainder of her career in the Navy.

"Many think that new-construction ships like ***Arleigh Burke*** are manned by perfect sailors. Not so," said CDR Morgan. "And, contrary to the rumors, the crew is not hand-picked. The Navy sent ***Arleigh Burke*** competent, well-trained sailors. My crew represents the talented people in the Navy today. We may not be the best sailors in the Navy, but we are among the luckiest, having been given the opportunity to bring ***Arleigh Burke*** to life."

The Legacy Lives On

"As destroyermen, we are building a tribute to a great naval officer along with building a high-tech warship," added ***Arleigh Burke's*** CO. "His spirit is incorpo-

rated into the steel of this ship. That's why it's his ship and always will be his ship. When a bluejacket wears that man's name on his shoulder in a pair of 'cracker jacks,' he is carrying forth ADM Burke's legacy — a legacy worth preserving — that's alive in this ship and in the men who sail her."

As crewmen began reporting, these modern-day bluejackets quickly became educated in their ship's namesake. To many, ADM Burke was just a chapter in a World War II history book. Until they talked with their new CO.

"The day a sailor walks aboard he becomes someone different — he is now a destroyerman on ***Arleigh Burke***," explained CDR Morgan. "During my talk with every sailor, I point to the Admiral's medals hanging on my bulkhead. First, I point out the Silver Star he earned for dragging sailors out of a burning compartment after a Kamikaze attack, next to his Navy Cross for the Battle of Cape St. George and, finally, to his Distinguished Service Medal for his gallant battles throughout WWII as a destroyer squadron commander. When a sailor leaves this stateroom he's been given a vital history lesson about the admiral and the standards of excellence the sailor must strive for aboard here. What we expect of him is different from what the Navy expected of him yesterday."

"ADM Burke is a very dynamic man and his presence provides the crew with a purpose other commissioning crews don't have," added LCDR Roger C. Easton, ***Arleigh Burke's*** XO. "They strive to achieve a goal in their daily performance that he would be proud of. With any ship's namesake, there is a certain mystique about the man. In our case, we have the unique opportunity to mate the admiral's characteristics to the ship's image."

"All of us, juniors and seniors alike, get a great deal of inspiration from him, especially when he addresses us," said RMCM(SW) Gary L. Barnes, ***Arleigh Burke's*** command master chief. "There are a lot of times we feel we don't want to fail because we want ADM Burke to be proud of his ship."

The PRECOM Challenge

Being part of a PRECOM crew can be a tedious and hectic assignment, with shoals of in-rate and collateral-duty challenges, often made more difficult when you are the lead ship of a class. But according to ***Arleigh Burke*** sailors, PRECOM can be filled with professional and personal rewards along with the best Navy training.

"PRECOM is a lot harder than most sailors think," stressed CDR Morgan. "It's the common perception that it's a brand new ship, everything works, everything is perfect and everything is handed to you. That is a very faulty perception. Yes, this is a marvelously designed ship beautifully constructed by great ship builders, but how it all comes together at sea, how she performs her mission is what our task becomes, and it is our task alone.

"It's best to say that a commissioning crew faces the prospect of doing it right and taking credit for it. Or doing it wrong and taking the blame for it. You are either going to win or lose in your performance. I like those kinds of stakes; some people don't."

"With the caliber of talented sailors we have, the task of taking the first Aegis destroyer through her testing and fleet introduction is the most challenging and rewarding assignment in my 28-year career," said Master Chief Barnes. "When I signed up for this assignment, I had a perception that PRECOM could be difficult, but I overlooked how difficult it is to build something from scratch."

OS1 (SW) James J. Harrington and other *Arleigh Burke* sailors wear the Admiral's name with pride and carry on his legacy. Photos by James R. Giusti

"When you can start at ground zero and build up, nothing can stop you from succeeding but yourself," added OS1(SW) James R. Harrington.

"It allowed me to build the Operations Department to a whole set of new standards and correct everything I groaned about in previous duty assignments," said LT Kirk S. Lippold, ***Arleigh Burke's*** operations officer.

"PRECOM is harder duty because you are reporting to a ship with no established guidelines," added GSM1(SW) Peter J. McCormick. "It's not like reporting aboard any other ship where you adopt the standards and procedures other sailors have put down and used. Here we are establishing the standards for how this ship will operate for her lifetime. The challenge is to do it right."

John Ward served aboard USS Stanly during WWII and was one of the 'Little Beavers'. He and others from WWII's DESRON 23 attended the commissioning to honor the admiral and swap sea stories with today's destroyermen. Photos by PH1 Michael Flynn

Preparing For Sea

For the PRECOM crew, the most important mission is training. The PRECOM training pipeline can begin before a sailor reports to the PRECOM UNIT with in-rate and/or NEC specific training completed en route to the ship. Once aboard, for example, the E-5 training pipeline can be between four to six months at PCU Dets established in Norfolk or San Diego near the Fleet Training Center there.

Crewmembers begin reporting to the PCU in four phases. Phase 1 is when the nucleus crew required at the shipyard for construction and for establishing the training detachment reports. In Phase 2 the technical and engineering rates required for the building of the ship report. In Phase 3, operation ratings required for developing and establishing the ship's operations procedures report. Finally, in Phase 4, the remainder of petty officer and most junior enlisted coming out of boot camp and "A" school arrive.

Arleigh Burke's crew developed an extensive training plan to prepare the crew for getting the ship underway. Her crew made her one of the few new-construction ships ever to complete 100 percent of the Ship's Master Training Plan and the Navy Training Plan requirements for all hands on board.

"For any new-construction ship, the commissioning crew is the most intensively trained crew a ship will likely have during her service life," said LT Lippold. "We organized our training program with mandatory schools for each pay grade, above those required by the Navy, and provided them enough time to complete that training before starting them on the hands-on training to learn to operate the ship, complete PQS's and learn the ship's damage control systems."

"From the moment you report aboard the PCU, you continue your training," explained GMG1(SW) Gordan D. Mathis. "There is more training for a new-construction ship than the average sailor can imagine or get on most other ships. But it's all necessary."

"The first training challenge was to get everyone ready to take the ship to sea," said LCDR James K. Hiser, ***Arleigh Burke's*** chief engineer. "In many cases, our systems are so new the Navy's training program hasn't caught up with them and won't until more ships of the class are built. So we developed many training programs by talking with and working side-by-side with the engineers to find out how a system works. In doing that we laid the training foundation for the rest of the class with DDG 51."

"I've done more PQS in the last four months than I did in four years in the previous ship,"

SM1 (SW) Kenneth B. Fields (above) paints *Arleigh Burke's* call letters on the signal bridge, while on the fo'c'sle, a mess cook shines the ship's bell — keeping a long standing seafaring tradition. Photos by James R. Giusti

quipped FC2(SW) James D. Brown. "Everyday is training – training takes priority in PRECOM. For any system or any qualification there is someone qualified and available aboard to teach it." Once the schoolhouse training is complete, you have PQS for all your systems, deck watches, in-rate training, GMT, safety, damage control and ESWS training.

"While training was a major challenge initially, the real challenge came the day we moved aboard," stressed LCDR Easton. "The day before, we were in a training mode, and the day we moved aboard, we were in an operating mode. All of a sudden, when the clock struck 0800, a sailor now had the responsibility for

maintenance of equipment, damage control, and watches. The difference between those levels of responsibility is night and day, especially when 70 to 80 percent of the crew has never been to sea."

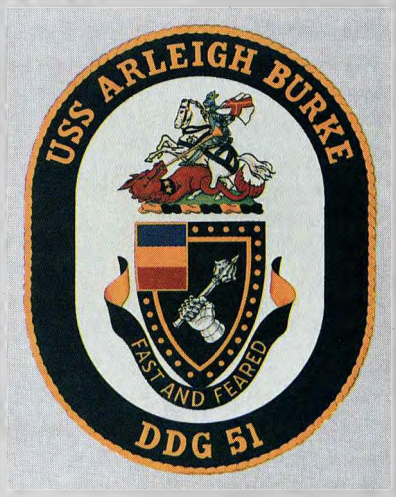
Professional Warriors

Aboard ***Arleigh Burke***, both damage control (DC) qualifications and the enlisted surface warfare specialist (ESWS) qualifications are mandatory programs and sailors are required to dedicate time weekly to getting qualified or requalified.

"Damage control is my number one priority on this ship. My abandon ship philosophy summarizes that. It states, 'No one is leaving.' What I'm telling my sailors is we are going to fight to the end to save this ship, so you had better know our damage control," said CDR Morgan.

"We established realistic deadlines for everyone to complete their DC qualifications. If a sailor didn't meet that deadline, he must then attend mandatory remedial DC training for three hours a night until he's qualified. Our damage control training on board is as extensive and in-depth as my in-

USS *Arleigh Burke* Crest



Each element of a ship's crest has a specific symbolic meaning. On the shield, the dark blue and gold are the colors traditionally associated with the U.S. Navy. Blue represents the sea, and gold is for excellence. The ribbon which bears the words, "Fast and Feared" signifies ADM Burke's outstanding achievements and battle honors during World War II. The 23 gold disks symbolize ADM Burke's Destroyer Squadron 23 — the only U.S. destroyer squadron to win the Presidential Unit Citation. This award is also represented by the small ship's flag in the left corner of the shield. The gauntlet grasping the mace represents the offensive and defensive capabilites of* Arleigh Burke. *The mace — which stands for authority — symbolizes ADM Burke's leadership as CNO. On the crest, St. George depicts ADM Burke's WWII victory over the Japanese at the Battle of Cape St. George. St.George, in full battle dress, implies the might and preparedness of the new destroyer. His cape, which bears the cross of St. George, incorporates a thin gold cross in its design. This signifies the Navy Cross awarded ADM Burke. The red sea dragon stands for the formidable Japanese naval power ADM Burke confronted in the Pacific. The two gold stars on the dragon's collar represent ADM Burke's awards. The birch branch on the helmet refers to the family name of ADM Burke's Scandinavian ancestors — Bjorkegren. It symbolizes the power of the continuing heritage of* Arleigh Burke. *The crest was designed by the Institute of Heraldry.

rate training," said OSC(SW) Mark H. Jordan. "If we don't have a ship, we're not going to be able to win a battle."

"With respect to ESWS, we have mandated two things," explained CDR Morgan. "First, every ESWS-qualified sailor reporting aboard must requalify on ***Arleigh Burke***. This is the lead ship of a class and there is no other place a sailor could gain significant experience in this particular hull and her specific systems.

"Secondly, I require ESWS qualification for every sailor because of the technology on board and for safety. When you look at the aviation community and submarine community, if you fly as an enlisted operator you have to be air crew qualified and if you go to sea in a submarine as an enlisted you must be submarine warfare qualified. Both are not voluntary programs, because of the technology evolved and the safety required in operating these platforms. DDG 51 is as sophisticated and as dangerous as any airplane or submarine. It's only common sense that we require our surface warriors to maintain that level of professional warfare qualification."

Quiet Confidence

Today ***Arleigh Burke*** is a U.S. Navy warship in the Atlantic Fleet.

But her plankowners still face many challenges while they work to make her a combat-ready destroyer ADM Burke can smile with pride about.

"There are a lot of people looking at DDG 51 and a lot of challenges ahead for ***Arleigh Burke***," admitted CDR Morgan. "Right now we are going to say little and deliver a lot. If we are professionally astute and go about business with a quiet confidence, ***Arleigh Burke's*** day-to-day performance will impress her critics and her supporters alike.

"There is no question that ***Arleigh Burke*** is a high-technology ship manned by high-technology trained and high-quality surface warriors. We can operate this destroyer because we are well educated, well trained and experienced in taking complex surface combatants to sea. As ***Arleigh Burke*** enters the fleet, we can reasonably expect that both the sailors and technology will succeed."

The surface warriors in ***Arleigh Burke*** now share a unique bond with the destroyermen of previous generations.

But it's ADM Burke's challenge to all surface warriors, "This ship is built to fight – you had better know how." that charts the course for his namesake's crew.

Arleigh Burke surface warriors readily answered up with the traditional reply of a destroyer sailor to any and all requests or orders – as "tin can" sailors have throughout history – "Can Do!"

USS ARLEIGH BU

"THIS SHIP IS BUILT TO FIGHT-

USS ARLEIGH BU
FAST AND FEARED
DDG 51

URKE (DDG 51)

YOU HAD BETTER KNOW HOW."

Fast & Feared

By James R. Giusti

"Of all the tools the Navy will employ to control the sea in any future war . . . the destroyer will be sure to be there." — ADM C.W. Nimitz

Destroyers ("tin cans" in naval slang) are the thoroughbred workhorses of the Navy. These multi-purpose men-of-war were invented because of a need for a fast ship, comparatively heavily armed, that could do a great deal of damage to an enemy, whether in support of other ships or operating alone. When things got tough, historically, the Navy sent in the destroyers, both during wartime and peacetime.

USS ***Arleigh Burke*** (DDG 51), the first Aegis guided missile destroyer, is a return to the classic destroyer – the sleek greyhound dashing to station amid the smoke of war or fury of a violent sea.

Frontline Combatant

Named after ADM Arleigh A. Burke, the heroic World War II destroyerman who gave the Navy a legacy of how to fight, this sleek 505-foot destroyer, equipped with space-age radars and weaponry, helps fulfill the Navy's critical need

GM's and FC's load *Arleigh Burke's* aft CIWS mount in preparation for a gunnery exercise. Photo by James R. Giusti.

Above, *Arleigh Burke* shows seakeeping ability during a high speed run. Photo courtesy of BIW.

for battle force capable ships in the 1990's and beyond. DDG 51 embodies the capabilities for the Navy to carry out the all-important missions of sea control and power projections far into the future.

Arleigh Burke, CDR John G. Morgan Jr. commanding, is a threat-responsive surface combatant characterized by world-class offensive firepower and unmatched survivability. Built to meet and defeat, ***Arleigh Burke*** – 8,300 tons of pure killer – is going to sea to:

- ❒ Kill hostile cruise missiles and aircraft,
- ❒ Kill hostile surface ships,
- ❒ Kill hostile submarines, and
- ❒ Attack enemy land targets.

To boot, ***Arleigh Burke*** is the first Aegis combatant designed from the keel up by the Navy and marks a return to all-steel construction. She also introduces a totally new ship integrated design that delivers massive firepower, high survivability, high speed seakeeping and very low signatures.

Those Aegis Eyes

Descending from the Aegis cruiser, USS ***Ticonderoga*** (CG 47), the Aegis destroyer takes full advantage of the state-of-the-art technology successfully demonstrated in the Aegis cruiser.

The core of ***Arleigh Burke's*** warfighting capability is the most advanced anti-air warfare (AAW) technology in existence – the Aegis combat system – an integrated network of computers and displays linked to sensors and weapon systems capable of simultaneously detecting, tracking, and engaging numerous air, surface and subsurface targets in the severest of environmental conditions, both natural and man-made. The DDG 51 combat system takes advantage of Aegis Cruiser Baseline 4 features found in USS ***Chosin*** (CG 65), the first Baseline 4 cruiser. The destroyer's Aegis combat system includes the AN/SPY-1D radar system, Mk 99 fire control illuminators, Mk 41 Vertical Launching System (VLS), AN/UYK-43 computers, AN/UYQ-21 displays, the Aegis display system Mk 2, Tomahawk weapon system block II, LAMPS interoperability, global positioning system and the Mk 34 gun weapon system.

Arleigh Burke can simultaneously operate in all warfare arenas – AAW, antisubmarine warfare (ASW), anti-surface warfare (ASUW) and strike warfare – along with having the capability for overall force battle coordination. She has the same detect-to-engage capability as the Navy's Aegis cruisers.

The Aegis combat system also allows DDG 51 complete air control of operations with a wide range of anti-submarine warfare (ASW) aircraft and other carrier- or land-based aircraft, including combat air patrol and strike aircraft.

As an integral part of a battle group, ***Arleigh Burke*** will complement the AAW capability of the ***Ticonderoga***-class cruiser and the

ASW capability of the ***Spruance***-class destroyer. She will also complement and supplement carrier strike operations with her strike capability. Her versatility means this man-of-war can be employed as an element in a surface action group, an amphibious ready group and an underway replenishment group, as well as in an aircraft carrier battle group. DDG 51-class destroyers will assist the ***Ticonderoga***-class Aegis cruiser with the mission of battle management for the Navy's battle group.

Versatile, Potent Warrior

Arleigh Burke's AAW capabilities provide a quantum improvement over older guided missile ships, with faster reaction time, greater firepower, increased availability, broader area coverage, and more environmental immunity. A fixed, multi-function four phased-array SPY-1D radar provides her with 360 degrees of continuous surveillance from the wave tops to the stratosphere in the AAW and ASUW environments.

An integral part of ***Arleigh Burke's*** firepower is her VLS capacity to carry a mix of 90 Standard surface-to-air missiles (SM-2) and Tomahawk cruise missiles. The forward VLS magazine holds 29 missiles and the aft magazine carries 61. The ability to carry such a diverse load-out of missiles makes ***Arleigh Burke*** the most versatile and potent destroyer ever.

Moreover, ***Arleigh Burke*** carries eight canister-launched Harpoon anti-surface missiles aft. She also has one 5-inch 54 caliber Mk 45 gun mount forward for ASUW and naval gunfire support missions.

For additional AAW defense, ***Arleigh Burke*** employs the Navy's state-of-the-art AN/SLQ-32(V)2 electronic surveillance system and four six-barrel SRBOC (chaff) missile-decoy launchers. One Phalanx close-in weapon system (CIWS) Gatling gun positioned just forward of the bridge and another one just aft of the ship's second stack provide her with maximum protection

GMMC (SW) Warren O. Filz checks out the sound-power phone's communications before donning a hard hat and operating *Arleigh Burkes* forward VLS crane during an ammo on-load.

Below decks, GSM1 Brian Wolf and GSM 2 Woody Hall monitor *Arleigh Burke's* propulsion control and respond to maneuvering orders under the supervision of the Duty EWO, GSM1 (SW) Peter J. McCormick..

On the bridge, the navigation helm team of GSE2 (SW) Michael J. Novelli, lee helm, ENS Walter A. Coppeans III and BM2 (SW) Kenneth M. Lyndon, helmsman, answer up to maneuvering orders from the conning officer. Photos by James R. Giusti

against incoming missiles or aircraft.

This high-tech sub killer hunts with the most sophisticated and proven ASW gear in the Navy. She employs the AN/SQS-53C long range bow-mounted sonar, her AN/SQR-19 tactical towed array sonar and AN/SQQ-28 data link to LAMPS Mk III helicopter ASW system incorporated into the AN/SQQ-89 ASW combat system to provide the most effective capabilities for both ASW and ASUW over-the-horizon engagements. All this, combined with her electroacoustic towed torpedo countermeasure system – NIXIE (AN/SLQ 25), her capability to refuel the LAMPS Mk III helo and the most modern ship quieting system available results in a surface ASW capability that is impressive.

Arleigh Burke is also equipped with two triple-battery surface Mk 32 torpedo tubes aft to launch the Navy's Mk 46 torpedo against enemy submarines. Beginning with ***Barry*** (DDG 52), the class will have the capability both to refuel and also rearm helos.

Stealthy And Survivable

Arleigh Burke also embodies additional strengths: reduced detectability and the ability to absorb extensive combat damage while remaining able to fight.

The Navy incorporated the time-tested principles of destroyer combat with the most recent warfighting lessons of the Falklands War and the Persian Gulf into the design of the class of surface combatant to provide them maximum survivability. The ship has an all-steel hull and superstructure.

A stern view of *Arleigh Burke* shows off her speed, flexibility and firepower. Photo courtesy of BIW.

The construction incorporates a "steel-space-steel" design for added protection of all vital command, electronic and machinery spaces.

Arleigh Burke's overall ship construction, combined with the latest quieting systems, ensures that her detectability by virtually all types of sensors is reduced across the threat spectrum. The topside arrangement of systems and sensors gives DDG 51 a lower radar cross section — a stealth capability from radar detection.

In addition, her all gray color reduces her visual detection ranges. Her reduced acoustic signature is controlled by advances in ship quieting technologies while her infrared signature is controlled by shipboard systems that reduce hot spots. Finally, a whole-ship degaussing system manages her magnetic signature.

Improved and redundant damage control systems enable ***Arleigh Burke*** to better withstand and repair battle damage. Many of the ship survivability features incorporated by the Naval Sea Systems Command (NAVSEA) stand out even to the untrained eye. In fact, combat sustainability was the major consideration in laying out every space on this destroyer.

Fire containment within the ship is provided by steel fire-zone bulkheads with special ceramic insulation and by other bulkheads made from special fire resistant composites. Firefighting systems and agents, such as halon, aqueous film forming foam (AFFF), salt water, fresh water, CO_2 and PKP can quickly extinguish all types of shipboard fires.

Vital combat systems, with computers and consoles capable of functioning in more than one warfare area, are strategically distributed throughout the ship to ensure continued operation in the event of battle damage. The ship's crew and vital equipment are protected against fragments from detonating weapons by a special kevlar armor system around all vital spaces.

Arleigh Burke is also designed to survive against nuclear, biological and chemical weapons. The ship is protected against the lethal effects of radiological fallout and chemical and biological contaminants by the ship's counter measure washdown (CMWD) system and collective protection system (CPS).

Arleigh Burke is the first Navy ship with a full-time and a ship-wide CPS against nuclear, biological and chemical agents. CPS employs special air filtration, ship subdivision, decontamination and high pressure fan technologies to sustain the ship's crew and operations in a contaminated warfare environment. CMWD can cover the entire outer skin of the ship with a thin layer of water to wash away contaminants.

The destroyer's hardening systems will provide greater protection against the effects of nuclear warfare including a thermal blast, an electromagnetic pulse and blast

overpressure. Additionally, all of her vital systems are shock hardened to survive both underwater and aerial detonations.

Drives Like A Caddy

The DDG 51's shorter and broader hull design gives her optimum seakeeping, mobility, speed and stability in heavy seas.

What makes her so distinctive is her length-to-beam ratio. She is 466 feet at the waterline, 66 feet on the beam and draws almost 33 feet. Her broad beam, length and hull flair afford her roll and pitch characteristics that enable high speed operations in very high sea states. During her first weapons firing trial, ***Arleigh Burke*** operated in 20-foot seas with 50 knots of true wind across the deck but remained very stable despite the rotten weather.

With twin rudders and two controllable reversible-pitch propellers that rotate outboard, rather than inboard, as on ***Ticonderoga***-class cruisers and ***Spruance***-class destroyers, ***Arleigh Burke*** handles very much like a ***Charles F. Adams***-class destroyer. This destroyer heels less than 10 degrees when executing a hard rudder turn – 35 degree rudder at 32 knots – in calm seas.

Twisting is not a problem and handling alongside a pier is easier because of her relatively small superstructure – i.e., sail area. And with two shafts, a small sail area and 100,000 shaft horsepower, tugs are not always needed.

The view from the bridge and bridge wings is almost 360 degrees. The OOD can see the entire fantail from either wing and helicopter operations are also clearly visible. When maneuvering alongside a pier, the OOD can see exactly where the fantail is and what is directly astern.

Steaming At 31 Knots

Arleigh Burke's propulsion system employs four LM 2500 gas turbine engines similar to those in the ***Spruance***-class destroyers and the ***Ticonderoga***-class cruiser. With a 25 percent increase in shaft horsepower the ship can achieve speeds greater than 31 knots.

The electrical plant utilizes three gas-turbine generators, each widely separated from the other for improved survivability. Electric power distribution is also redundant in a "port/starboard-high/low" arrangement.

In ***Arleigh Burke***, the Navy's latest computer-controlled machinery control system (MCS) communicates monitoring and control signals across a survivable data multiplexing system to all the ship's machinery.

Designed To Fight

From the keel up, ***Arleigh Burke*** was designed as a general purpose, multi-mission surface combatant built for combat at sea. The DDG 51-class destroyers are the first ships in some time designed by NAVSEA from the keel up. These ships are all products of years of laboratory studies and lessons learned on the deckplates.

Even such details as easy access to mast-mounted radars and antennae were well thought out. ***Arleigh Burke*** has a hollow mast in which all the wiring for these sensors is contained. This feature's biggest advantage is that technicians can climb up inside the mast to perform radar and antenna repairs, thus eliminating the need to shut down all radiating equipment while working aloft.

Building The Capability

The ***Arleigh Burke***-class destroyers will replace the ***Charles F. Adams***-class and ***Farragut***-class destroyers that will be decommissioned in the 1990's.

The Navy presently plans to build a total of 39 DDG 51-class destroyers through FY97. The Navy has awarded construction contracts for 17 destroyers – nine to Bath Iron Works and eight to Ingalls Shipbuilding. Under the current DoD Five Year Plan, the Navy will order the class at an average of four ships per year. A number of system upgrades are planned for the later ships, beginning with DDG 68. The first so-called Baseline 5 Aegis destroyer calls for an improved electronic countermeasure system, the advanced Combat Direction Finding system (COMBAT DF) and an improved communication system.

Arleigh Burke is built to fight, her crew is trained to fight her. Her designers and builders made her a formidable weapon to serve the nation.

A new generation of destroyers has entered the fleet that is balanced, flexible, tough and survivable. These are the right ships at the right time for the surface Navy.

DDG 51 Class (Baseline 4) Characteristics

Length	505 ft.
Beam	66 ft.
Displacement	8,315 tons
Speed	31+ knots
Radar	AN/SPY-1D
	AN/SPS-67
Sonar	AN/SQS-53C
	AN/SQR-19
AAW Weapons	SM-2(MR) Block II*
	CIWS
	SLQ-32
	SRBOC
ASW Weapons	Torpedoes
	LAMPS capable
ASUW Weapons	Tomahawk*
	Harpoon
	Mk-45 5-in/54 caliber Gun
Strike Weapons	Tomahawk*
Crew Accommodations	Officer 26
	CPO 24
	Enlisted 291

DDG 51 through 67 will be the Aegis Baseline 4 destroyers. DDG 68 through DDG 90 will be Aegis Baseline 5 destroyers. Baseline 5 calls for electronic countermeasures, communications, and command and control upgrades. Beginning with DDG 52, the class will have the capability to refuel and rearm helos.

*Vertically launched

Artwork courtesy of MicroLithics Corp.

A '*Tin Can*' Tribute

This painting by George L. Skypeck shows the various historical designs of the destroyer from the original inception of the warship to USS ***Arleigh Burke*** (DDG 51). The scenes depict destroyers performing in antisubmarine warfare, convoy escort duty, anti-aircraft warfare, naval gunfire support and naval combat engagements from the war with Spain in 1898 to the Vietnam War.

The insignia of DESRON 23 is a special tribute to ADM Arleigh Burke and his gallant men — "the Little Beavers".

The rendition of the officer and enlisted man alongside the Purple Heart honors the countless destroyermen who were wounded or killed in sea engagements. The ribbons represent the various wars in which destroyers participated.

For the Navy, the ship that most describes man's singular adventure with destiny and immortality is the destroyer — a fast, small, courageous man-of-war.

The destroyer traces her lineage back to the masted sailing ships of the Continental Navy. However, the modern-day destroyer actually goes back to the Civil War and the use of "spar torpedoes" by the Confederate Navy.

The British invention in 1866 of a vehicle which could travel submerged 200 yards at 6.5 knots and carried an explosive warhead became known as the "torpedo." That invention quickly linked the torpedo and the destroyer together. The first British-designed destroyer (aka motor torpedo boat), HMS ***Lightning***, became the first destroyer to fire torpedoes in 1877. The chief attributes of the ship were that it was small, agile, inexpensive and deadly to heavier ships. Europe and Japan launched aggressive efforts to construct these early destroyers.

The U.S., however, lagged until 1886, when Congress authorized the building of the first torpedo boat, USS ***Cushing***. Nevertheless, the U.S. Navy was the first nation to use these destroyers, in actual combat during the Spanish-American War.

The design by which today's destroyers are commonly known is the "flush-deck" destroyer design of the ***Wickes***-class and the ***Clemson***-class destroyers of the early 1890's.

By World War I, U.S. Navy's destroyer was a sleek, fast, four-stacked, gun- and torpedo-based attack platform.

On 24 April 1917, CDR Joseph Taussig arrived in Queenstown, Ireland, with the FIRST Flotilla comprised of the destroyers ***Wadsworth*** (DD 60), ***Conyngham*** (DD 58), ***Porter*** (DD 59), ***McDougal*** (DD 54), ***Davis*** (DD 65), and ***Wainwright*** (DD 62) to begin combat patrol and convoy escort operations as well as antisubmarine operations against a new German sea threat, the submarine. In November 1917, USS ***Fanning*** (DD 37) and USS ***Nicholson*** (DD 52) sank the first German U-boat, U-85, off Queenstown.

In the period between World War I and II, the Navy did not improve its basic design until world events in Europe and Asia indicated a potential adversarial relationship with the Axis nations: Japan, Germany and Italy.

In 1933, the Japanese created the infamous Type 93 "Long Lance" torpedo, which was a 24-inch diameter, liquid oxygen powered, 500-kilogram explosive charged warhead ship-killer, and installed them aboard their destroyers and fleet ships.

The Japanese also had a design which allowed the reloading of torpedo tubes while underway.

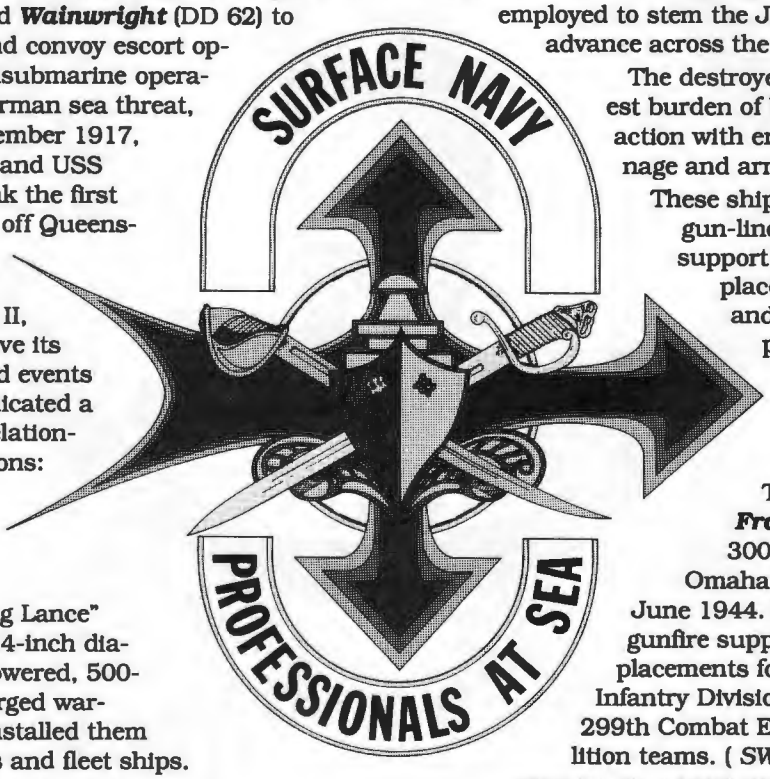
To counter this threat the Navy designed the ***Porter***-class destroyer in 1933, with a minimum of two 5-inch guns (later up to four batteries) both centerline and fan side mounted torpedo tubes.

The U.S. Navy then created the ***Simms***-class and the ***Benson***-class. These were followed by the ***Fletcher***-class, which was a mainstay destroyer of WWI.

Prior to the official entry of the United States into World War II, the U.S. had given Britain, under the Lend-Lease program, several old WWI-type destroyers for the sole purpose of Atlantic convoy escort and antisubmarine duty. Navy destroyers escorted Allied ships from U.S. shores containing U.S. military supplies to a hand-over Mid-Ocean (Atlantic) Point from where the Royal Navy would take over. This quasi-support led the U.S. Navy into a wartime scenario.Just before Pearl Harbor, the first U.S. destroyer of WWII was sunk. USS ***Reuben James*** (DD 245), an old WWI four-stacker, was sunk by a German U-boat on 31 October, 1941, off the Mid-Ocean Point.

The first shot fired by the Navy during the attack on Pearl Harbor, 7 December 1941, was by USS ***Ward*** (DD 139) an old WWI four-stack destroyer. Her shot sank a midget submarine at Pearl Harbor's entrance. ***Ward*** was later sunk in a furious battle while supporting an amphibious assault to liberate the Philippine Islands in Leyte Gulf on 7 December 1944.

As WWII progressed, the destroyer again proved its worth when "island-hopping" became an Allied tactic employed to stem the Japanese naval and army advance across the Pacific.



The destroyer always bore the heaviest burden of battle — usually in close action with enemy ships of larger tonnage and armament.

These ships would stand along the gun-line providing naval gunfire support against enemy land emplacements or close-in direct and indirect fire support for pinned-down Marine and Army forces barely off the beach line in both the Atlantic and Pacific Theaters.

This was the case of USS ***Frankford*** (DD 497) barely 300 yards off the Normandy Omaha Beachhead on D-Day, 6 June 1944. Her crew provided naval gunfire support against German emplacements for the pinned-down First Infantry Division (Big Red One) and the 299th Combat Engineer Battalion demolition teams. (*SW* May/Jun 90:10).

USS ***England*** (DD 635) with only ten weeks of sea experience, sank six Japanese submarines in 12 days; a feat unmached to this date.

And the destroyer filled an ever-expanding role as an early warning defense during the battles of Iwo Jima and Okinawa. As a result of the effectiveness of the "Picket Line" of destroyers outfitted with new radar detectors, the Japanese Kamikaze targeted them hoping to destroy the U.S. Navy's anti-aircraft radar coverage of its capital ships.

One such destroyer attacked was USS ***Laffey (DD 724),*** which on, 16 April 1945, survived 22 direct Kamikaze hits in just 80 minutes. (*SW* Sep/Oct 90:6.)

However, one destroyer engagement and one leader stand out significantly — Thanksgiving Day, 25 November 1943. During the Battle of Cape St. George the Little Beavers commanded by then-CAPT Arleigh Burke proved the fighting value of destroyers.

For his heroics and his leadership a new destroyer class bears his name.

It is to this warrior, this type of warship, and the combat exploits of the U.S. Navy's "tin-can" sailors, both present and past, that this painting is dedicated.

Carrying On The Legacy

According to naval historians, ADM Arleigh A. Burke throughout the course of his naval career, was daring, dedicated, a possessor of courage and a superb leader of men. It is with those qualities Destroyer Squadron 23 continues to serve today's Navy.

DESRON 23 was commissioned in December, 1942 in Orange, Texas. The squadron joined ADM William "Bull" Halsey's southwest Pacific forces in February 1943 after a relief tour protecting Atlantic convoys to Casablanca and Gibralter.

Under the command of then CAPT Burke, from November 1943 to February 1944, the squadron participated in 22 separate enemy engagements. For its heroic effort, the squadron was awarded the Presidential Unit Citation. Naval historians recall that it was in November 1943 that the five-ship squadron engaged six enemy destroyers at the Battle of Cape St. George, sinking four of them and badly damaging the other two in what has been described as a "near-perfect surface action." Other DESRON 23 engagements under ADM Burke's leadership during this period wrote a new chapter in destroyer torpedo warfare and provided victory at Empress Augusta Bay, Buka Pass, Rabaul, Bouganville, and throughout the Solomon Islands.

During his command, he nicknamed the squadron "The Little Beavers" for the comic strip Indian friend of Red Rider noted for his fidelity, courage and tenacity. Today, the nickname, and subsequently its logo, is synonymous with DESRON 23.

The Little Beavers continued fighting through the Mariana Islands campaign, Guam and the Philippines campaign until the surrender of the Japanese Empire. The squadron was deactivated in 1946.

Ten years later DESRON 23 was reactivated for duty by authority of the Chief of Naval Operations, ADM Burke. Since that time the squadron has operated as an integral unit of the U.S. Pacific Fleet.

Last July the squadron, under the command of CAPT William R. Schmidt, along with Battle Group Delta, was underway for a western Pacific deployment until ordered to proceed to the North Arabian Sea in response to the Iraqi invasion of Kuwait. At the beginning of the deployment the squadron assumed duties as ASW commander, screen coordinator, main body maneuvering coordinator and

LAMPS element coordinator. With new tasking orders in hand, DESRON 23 staff spearheaded the development of new warfare tactics as maritime interception commander. The squadron responded by taking the lead in coordinating efforts to enforce U.N. sanctions against Iraq in the North Arabian Sea and Gulf of Oman, directing one of the first boardings and seizures of Iraqi ships during Operation DESERT SHIELD. Before scripts or checklists were established the Little Beavers were on scene and orchestrating a naval operation that significantly impacted on the military capabilities of Iraq, including:

- 3 Sep: USS ***Goldsborough*** (DDG 20), CDR Michael Sarraino commanding, boarded an Iraqi cargo ship and ordered the ship to divert because of prohibited cargo aboard.
- 12 Sep: USS ***Brewton*** (FF 1086), CDR Charlie A. Jones commanding, and USS ***Reasoner*** (FF 1063), CDR Steve Sonntag commanding, boarded an Iraqi tanker and an Iraqi cargo ship and cleared both ships to proceed to Iraq.
- 14 Sep: ***Brewton*** fired the first warning shots across the bow to stop an Iraqi tanker. The subsequent boarding, which occurred with the assistance of Australia's HMAS ***Darwin***, also marked the first multinational interception.
- 21 Sep: ***Brewton*** boarded and cleared for procession an Indian cargo ship bound for Iraq with United Nations sanctioned foodstuffs for distribution to Indian nationals in Iraq/Kuwait.
- 08 Oct: COMDESRON 23 directed the boarding of an Iraqi tanker utilizing, for the first time, a Marine expeditionary unit (special operations capable.)
- 09 Oct: COMDESRON 23 directed the first trinational boarding while prosecuting an Iraqi cargo ship.
- 28 Oct: COMDESRON 23 encountered the first Iraqi ship to attempt to avoid being boarded. The uncooperative action was unsuccessful. This interception also marked the initial use of fighter aircraft to aid in stopping vessels for boarding.

DESRON 23 surface combatants and other Allied naval units continued the maritime interception of shipping as DESERT SHIELD became DESERT STORM — effectively halting supplies to Iraq from the sea during the U.N.-sanctioned embargo.

Today, under the command of CAPT Roger L. Miller, DESRON 23 remains ready to carry on ADM Burke's Little Beavers legacy and meet the challenges ahead.

Over time, the officers and crew of the Little Beavers reads like a naval Who's "Who" of "tin can" sailors. USS ***Charles Ausburne*** (DD 570), USS ***Claxton*** (DD 571), USS ***Stanly*** (DD 478), USS ***Dyson*** (DD 572), USS ***Aulick*** (DD 569), USS ***Converse*** (DD 509), USS ***Foote*** (DD 511), USS ***Spence*** (DD 512), USS ***Thatcher*** (DD 514), USS ***Braine*** (DD 630), USS ***Bagley*** (FF 1069), USS ***McClusky*** (FFG 41), USS ***Barbey*** (FF 1088), USS ***O'Brien*** (DD 971), USS ***Berkeley*** (DDG 15), USS ***Lewis B. Puller*** (FFG 23), USS ***Bradley*** (FF 1041), USS ***Ramsey*** (FFG 2), USS ***Buchanan*** (DDG 14), USS ***David R. Ray*** (DD 971), USS ***Copeland*** (FFG 25), USS ***Reasoner*** (FF 1063), USS ***Curts*** (FFG 38), USS ***Roark*** (FF 1053), USS ***Kinkaid*** (DD 965), USS ***Schofield*** (FFG 3), USS ***Lynde McCormick*** (DDG 8), USS ***Marvin Shields*** (FF 1066) and USS ***Waddell*** (DDG 24) are all ships counted among the squadron's alumni.

USS *Brewton* on station in the North Arabian Sea during Operation DESERT SHIELD.

For decades, the entrance signs at Maine's Bath Iron Works (BIW) proudly proclaimed: "Through These Gates Pass the World's Best Shipbuilders." Recently, a second sign appeared there. This one announced "Maine's Master Shipbuilders Present Tomorrow's Naval Technology."

The new message signaled BIW's delivery of the Navy's new Aegis destroyer, USS ***Arleigh Burke*** (DDG 51).

William E. Haggett, Chairman of BIW, pointed out that when DDG 51 sailed, it increased to 15 the number of Navy combatant lead ships delivered by the shipyard this century. "Proven results at sea have confirmed our early engineering goals and expectations," said Mr. Haggett. "There is confirmed evidence that ***Arleigh Burke***-class ships will be the world's finest, solidifying America's strength at sea for decades to come. BIW is proud of its tradition and proud of the work accomplished by Maine shipbuilders."

BIW, located on Maine's Kennebec River, has engaged in shipbuilding since 1884, constructing more than 400 ships for the U.S. Navy and merchant ship operators. It is recognized worldwide as a premier builder of surface combatants of the frigate, cruiser and destroyer classes. BIW gained its international reputation during World War II when it constructed 82 destroyers, more than all the warships produced by the entire Empire of Japan during the four-year period.

BIW's contribution prior to and after World War II was no less spectacular. During the 15-year period from 1931, the U.S. Navy ordered no fewer than 12 different classes of destroyers. BIW built ships in eight of these classes and was designated lead shipyard for three of those classes. BIW delivered the first ship of the class no fewer than five times (including the first

ship of each of the three war-built classes). All of this was accomplished at a time when BIW, along with Gibbs & Cox and Federal Shipbuilding, was involved in the development of the high pressure, high temperature steam propulsion plant that became standard in American destroyers.

A look at BIW's record of Navy shipbuilding reveals :

- the builder of the American Navy's first turbine-powered ship – USS ***Chester*** (CL 1);
- the first shipyard to deliver turbine-powered destroyers – USS ***Flusser*** (DD 20) and ***Reid*** (DD 22);
- the first shipyard to deliver a "thousand tonner" destroyer – USS ***Cassin*** (DD 43);
- the first American shipyard to build and operate a ship with turbines mated to reduction gears – USS ***Wadsworth*** (DD 60);
- and the first shipyard to complete and deliver a destroyer of the huge "flush deck, four stacker" class – USS ***Manley*** (DD 74).

Since World War II, the Navy has ordered 19 multiship classes of surface combatants. BIW has been involved in 12 of these classes, was designated lead shipyard for nine, and delivered the first ship of the class in 10 cases.

Translated into quantitative terms, the Bath Iron Works has built, is building, or has on order 24 percent of all the surface combatants ordered by the U.S. Navy since 1946.

The shipyard has been involved in the design and construction of some of the most technically advanced surface combatants in the world, the Aegis cruisers and destroyers, as the lead yard for Aegis destroyers.

"A century ago, Bath Iron Works began a storied tradition of Navy shipbuilding with delivery of gunboats USS ***Machias*** and USS ***Castine***. The Kennebec River shipbuilding legend grew and was carried around the globe. BIW's record for design and construction of destroyer-class ships is unmatched," said Mr. Haggett.

"Now, the men and women of Maine's proud shipyard have built the world's most advanced and survivable surface combatant, the multimission Aegis guided missile destroyer ***Arleigh Burke***. Equipped with the Aegis combat system, the Navy's new destroyer can engage supersonic targets with pinpoint accuracy in the most severe threat environments. ***Arleigh Burke*** joins the fleet as a strong deterrent to aggression, capable of protecting U.S. interests on all the world's oceans."

Arleigh Burke's **crew mans the rail as she sails down the Kennebac River en route to Norfolk on 22 June, marking the first time a Navy-owned Aegis destroyer put to sea. Photo courtesy of BIW.**

The Pascagoula Connection

Ingalls Shipbuilding, a division of Litton Industries located in Pascagoula, Miss., has been building U.S. Navy and Merchant Marine ships for more than five decades. In its history, Ingalls was the lead yard for six new classes of warships and has delivered 55 major surface combatants to the fleet since 1975.

Ingalls is currently building ***Ticonderoga***-class Aegis cruisers, ***Arleigh Burke***-class Aegis destroyers and ***Wasp***-class multipurpose amphibious assault ships.

In September 1978, Ingalls was selected by the Navy as lead shipbuilder for the Aegis cruiser program. Ingalls was awarded contracts to build 19 of the 27 cruisers in the program, and, since December 1982, has delivered 14 of those ships.

Ingalls was awarded a contract to build USS ***Wasp*** (LHD 1), the lead ship in the Navy/Marine Corps team's newest class of multipurpose amphibious assault ships in February 1984. In 1986, the shipyard was selected to build three follow-on ships of the class as well. ***Wasp*** joined the fleet on 29 July 1989. ***Essex*** (LHD 2) was launched in January 1991 with sea trials scheduled for later this year. Construction is progressing rapidly on two additional LHD's, ***Kearsage*** (LHD 3) and ***Boxer*** (LHD 4).

Barry **(DDG 52), shown here under construction, was launched on 10 May 1991. Photo courtesy of Ingalls Shipbuilding.**

Ingalls also produced a proven record in surface ship overhaul/repair/reactivation since 1985. Ingalls completed 16 such projects, including overhaul of ***Spruance***-class destroyers.

Ingalls also earned success in the reactivation, modernization and restoration of the World War II ***Iowa***-class battleships, USS ***Iowa*** (BB 61) and USS ***Wisconsin*** (BB 64), in 1984 and 1988 respectively.

In 1988, Ingalls returned the damaged frigate, USS ***Stark*** (FFG 31), to duty following restoration work.

In May 1987, Ingalls became the Navy's second-source shipbuilder for the next generation of Aegis ships — Aegis guided missile destroyers.

The company's first Aegis destroyer, USS ***Barry*** (DDG 52), was launched in May 1991. Ingalls currently has eight Aegis destroyers in various stages of production.

During World War II, in its original facilities on the east bank of the Pascagoula River, Ingalls produced troop ships for the Navy, as well as escort aircraft carriers, submarine tenders and net layers. Postwar, Ingalls produced amphib-

The hull modules of the Aegis destroyer *Barry* (DDG 52) are welded together at Ingalls Shipbuilding in November 1990. DDG 52 is the first of eight Aegis destroyers now under construction using modular techniques pioneered by the shipyard. Photo courtesy of Ingalls Shipbuilding.

ious assault ships, destroyers and, beginning in the 1950's, attack submarines.

Acquired by Litton Industries in 1961, Ingalls, Litton and the state of Mississippi joined in a partnership to build an entirely modern shipyard across the river from the shipyard's then-existing facilities. That facility was built on a new concept — which Ingalls and Litton pioneered — that of modular ship construction and extensive pre-outfitting of modules as a way to reduce production costs.

The separate hull modules, each weighing thousands of tons, are then joined on land to form the completed hull, and the ship's superstructure is lifted aboard. The completed ship is then moved over land, via Ingall's wheel-on-rail transfer system, and onto the shipyard's launch and recovery drydock for float-off.

In addition to pioneering new ship construction methods, Ingalls has led the marine industry in the development and use of computer technology for ship and system design, as well as construction and fleet support. Ingalls utilizes a three-dimensional computer-aided design (CAD) system, linked with an integrated computer-aided manufacturing (CAM) production network of host-based computers and localized minicomputers throughout the shipyard. The CAD system directs operation of CAM-controlled manufacturing equipment utilized to cut steel plates, cut and bend pipe, and form sheetmetal assemblies.

These shipbuilding advances, refined during two decades of assembly line construction of destroyers, cruisers and amphibious assault ships, has been applied to the construction of ***Spruance***-class destroyers, ***Tarawa***-class amphibious assault ships and ***Kidd***-class guided missile destroyers; and is now being applied to the construction of ***Ticonderoga***-class Aegis cruisers and ***Arleigh Burke***-class Aegis destroyers, as well as ***Wasp***-class amphibious assault ships.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