

Sun Shipbuilding's Baby Flattops
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For over 70 years, the Sun Shipbuilding and Drydock Company of Chester, Pennsylvania manufactured ships for the United States government, foreign governments and industrial concerns. Though originally unintended, one of Sun Shipbuilding's most important contributions to the Allied victory was in providing ships for conversion to escort aircraft carriers. Altogether, eight Sun Shipbuilding merchant ships were converted to 'Baby Flattops' for the United States and British Royal Navies.

A Brief History of Sun Shipbuilding Company -

Sun Shipbuilding was founded in 1916 on the Delaware River in Chester, Pennsylvania, about fifteen miles south of Philadelphia. The shipbuilding company was an offshoot of the Sun Oil Company, who required tanker ships to transport crude oil and petroleum products. Sun's first ship - a 10,600 ton tanker named *Chester Sun* - was launched on 30 October 1917 and delivered to its parent company the following January.¹

In the years leading up to World War Two, Sun Shipbuilding expanded to become one of the nation's largest shipyards. By the end of the war, it was the largest shipyard in the country with over 35,000 workers and twenty-eight shipways. Sun Shipbuilding constructed 40% of the nation's T2 tankers or some 281 vessels.²

¹ Background history on Sun Shipbuilding and Drydock Company was provided by Dave Kavanagh, Founder and President of the Sun Ship Historical Society. See their website www.sunship.org for more information. The data on *Chester Sun* was taken from a spreadsheet of hull data prepared by the Historical Society: Dave Kavanagh, et. als. "Sun Shipbuilding and Drydock Company Hull Listing." Prepared by the Sun Ship Historical Society. 9 March 2004. [Hereafter cited as "Sun Ship Hull Listing."]

² Ibid.

Throughout its history, over 600 ships were constructed by Sun Shipbuilding. Primarily these ships were civilian merchant vessels such as cargo ships, tankers and passenger liners. In 1973, Sun Shipbuilding constructed the *Glomar Explorer*, a super-secret deep-sea salvage vessel that was used by the CIA to attempt a recovery of a sunken Soviet missile submarine.³

After World War Two, the demand for new ship construction receded and Sun Shipbuilding reduced its operations. No longer needed sections of the massive facility were sub-divided and sold off. The company was bought by Pennsylvania Shipbuilding in 1982 and closed in 1989. Today Sun Ship's yards are now occupied by industrial facilities, a commercial cargo terminal and the Harrah's Chester racetrack and casino.⁴

The Need for Escort Carriers

World War Two did not begin well for Great Britain and the Allied Powers. The first two years of the war saw Nazi Germany seize Poland, the Low Countries, France, Norway, the Balkans, and large sections of North Africa and the Soviet Union in rapid succession. At sea, German warships and submarines (U-Boats) wreaked havoc upon Britain's sea commerce; the hard-pressed Royal Navy was losing in the struggle to keep Britain's sea lanes open. By 1941, Britain was practically waging war against Nazi Germany in the West alone.

As 1941 progressed, the United States became closer and closer to entering the Battle of Atlantic. Woefully unprepared for war, the United States embarked upon a crash program to

³ Ibid.

⁴ Ibid.

modernize and expand its military and naval forces. The shipbuilding program for FY1941 represented new warship construction that greatly surpassed the preceding ten years of warship construction combined. U.S. Navy warships began escorting convoys part of the way across the Atlantic. To help Britain with its escort ship shortage, President Franklin D. Roosevelt traded fifty World War One-era destroyers for basing rights in the Caribbean.

Over time, the German naval strategy switched its emphasis from surface warships and raiders to U-Boats. German U-Boats were not true submarines in that they required considerable time on the surface to re-charge their electric batteries for submerged operation. Nevertheless, their mobility and their ability to strike from below without warning devastated British shipping in the Atlantic Ocean.

Depending upon where they were sailing, convoys also had to contend with German land-based aircraft. In the Mediterranean Sea especially, convoys came under frequent air attack. Escort vessels and cargo ships alike suffered heavily under these attacks.

In response to German naval threats, Britain adopted the convoy system that had worked so well against German U-Boats in World War One. Unfortunately, Britain lacked adequate numbers of escort vessels to protect its convoys. Land-based aircraft were able to provide much protection for convoys but were limited in range. German naval leadership simply moved their U-Boats beyond the range of the land-based aircraft. This area became known as the "Black Gap."

A solution to the convoy protection and air support problems began to emerge in the form of the escort aircraft carrier.

The Escort Aircraft Carrier is Born

The concept of the escort aircraft carrier or light aircraft carrier had been advanced as early as the closing days of World War One. The United States Navy's first carrier - *USS Langley* (CV-1) - had been converted from the collier *Jupiter*. In May 1927, U.S. Navy Lieutenant Commander Bruce G. Leighton wrote a paper on the subject which would later prove prescient. The idea was brought again to the forefront in 1939. Support for the concept was mixed in the U.S. Navy. In 1940, Rear Admiral William F. Halsey and Admiral Husband Kimmel both supported the concept as a way to free up the fleet aircraft carriers from having to ferry aircraft from the United States to distant U.S. bases overseas.⁵

President Roosevelt ultimately decided the issue in October of 1940. By now, the plan was to take existing merchant ships and convert them to small aircraft carriers by the installation of a flight deck, hangar facilities and equipment to operate aircraft. Once converted, the escort carriers would escort convoys. Their aircraft would seek out and destroy German U-Boats and surface warships and defend the convoys from air attack. Consultations were held with the U.S. Maritime Commission and arrangements made to acquire merchant ships for the conversion. Additional ships would be acquired by the U.S.

⁵ Scot MacDonald. *Evolution of Aircraft Carriers*. (Washington DC GPO: Office of the Chief of Naval Operations, 1962), pp. 49-50. Found online at www.history.navy.mil ; For more about the early development of aircraft carriers, see Captain Donald McIntyre, RN (Ret.), *Aircraft Carrier - The Majestic Weapon*. (NY: Ballantine, 1968.); Samuel Eliot Morison, *History of United States Naval Operations in World War II. Volume X The Atlantic Battle Won May 1943 - May 1945*. (Boston: Brown, Little & Co., 1956), pp. 37-38. [Hereafter cited as Morison X].

Navy and turned over to the Royal Navy after conversion to escort carriers. The Royal Navy was anxious for escort carriers to protect its convoys from U-Boats.⁶

In March 1941, the U.S. Navy acquired two diesel-powered C-3 cargo ships - *Mormacmail* and *Mormacland* - for conversion to escort carriers. These two vessels had originally been constructed by Sun Shipbuilding for the U.S. Maritime Commission for the Moore-McCormack Shipping Line. The *Mormacmail* became the U.S. Navy's first escort carrier, *USS Long Island* (AVG-1), in June 1941; *Mormacland* was converted and transferred to the Royal Navy as *HMS Archer* (BAVG-1) the following November. After being placed in commission, *Long Island* was primarily used to test operational procedures and equipment for escort carriers.⁷

The U.S. Navy's next acquisitions from Sun Shipbuilding's merchant ship stocks were the four passenger/cargo ships of the *Rio*-class. Named *Rio Hudson*, *Rio Pazana*, *Rio de la Plata* and *Rio de Janeiro* for rivers in South America, these four ships were in the process of construction when they were acquired by the Navy. Like *Mormacmail* and *Mormacland*, the *Rio* ships were under contract with the U.S. Maritime Commission for the Moore-McCormack Line. Originally they had been intended to transport cargo and passengers between the East Coast of the United States and South America for the Moore-McCormack Line.⁸

After conversion, the four *Rio* escort carriers were transferred to the Royal Navy as *HMS Avenger*, *HMS Biter*, *HMS Dasher*, and *HMS*

⁶ Ibid.

⁷ MacDonald, p. 50.; See also the entry for *USS Long Island* in the Dictionary of American Naval Fighting Ships. Hereafter cited as DANFS., McIntyre, p. 119.; Morison X, p. 38.; Tony Drury has an outstanding website detailing all Royal Navy escort carriers: <http://www.royalnavyresearcharchive.org.uk/ESCORT/> . Hereafter this website is cited as "Royal Navy Escort Carriers." My thanks to him for using his website as source material for this paper.

⁸ "Sun Ship Hull Listing."; McIntyre, p. 119.; "Royal Navy Escort Carriers."

Charger. The first three served with distinction in the Royal Navy; *Charger* was re-claimed by the U.S. Navy and used as a training ship.⁹

The last two Sun Shipbuilding ships to be acquired and converted to escort carriers were the *Esso Seakay* and *Esso New Orleans*. These two ships were originally constructed for the U.S. Navy as *Cimarron*-class fast fleet oilers. Two other *Cimarron*-class oilers constructed by another shipbuilder were also acquired. These oilers were chosen because of their larger size and more powerful and reliable engines. *Esso Seakay* became *USS Santee* and *Esso New Orleans* became *USS Chenango*. Due to the pressing need for fast oilers to support increasing fleet operations, no more *Cimarron* oilers were converted to escort carriers. *Santee* and *Chenango* both conducted operations in the Atlantic and Pacific Oceans.¹⁰

The Royal Navy and U.S. Navy escort carriers conducted operations throughout the Atlantic, Pacific and Mediterranean Theaters. They escorted convoys, ferried aircraft to Allied bases, hunted down U-Boats, and supported amphibious invasions.

In November 1942, six of the eight Sun Shipbuilding escort carriers supported Operation Torch - the invasion of North Africa. *Santee*, *HMS Avenger*, *HMS Biter*, and *HMS Dasher* provided air cover for the assault forces until land-based aircraft could be established on airfields ashore. *HMS Archer* escorted a U.S. troop convoy and *Chenango* ferried U.S. Army Air Force fighters to the invasion area. In addition, *Charger* ferried U.S. Navy

⁹ *Ibid.*; For *Charger*'s history, see DANFS entry.

¹⁰ "Sun Shipbuilding Hull List."; MacDonald, pp.50-51.; See also DANFS entries for *Santee* and *Chenango*.; McIntyre, p. 120.

fighter squadron VGF-29 from Norfolk to Bermuda where they transferred to *Santee* for the invasion. Only *Long Island* was not somehow involved in Torch.¹¹

Six of the eight Sun Shipbuilding escort carrier conversions survived World War Two. *Santee* survived strikes by a kamikaze and an aerial torpedo during the Philippines invasion. *HMS Avenger* was sunk by a German U-Boat. *HMS Dasher* suffered a catastrophic internal explosion and sank.¹²

After the war, the Sun Shipbuilding's escort carriers served in varying roles. *Charger*, *Long Island* and *HMS Archer* were sold to civilian lines and converted to passenger ships. *HMS Biter* was transferred back to the U.S. Navy who loaned her to the French Navy. Ultimately she was sunk by the U.S. Navy as a target hulk. *Chenango* and *Santee* continued in service with the U.S. Navy as CVEs until being sold for scrap in the early 1960s.¹³

USS Long Island (CVE-1) (Former Mormacmail)

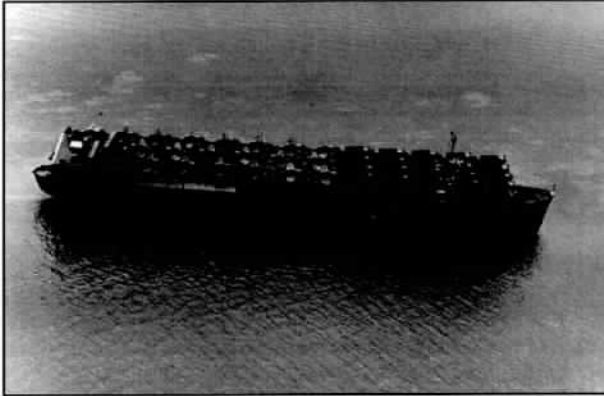
The U.S. Navy's first escort carrier began life as the C-3 cargo ship *Mormacmail* (Sun Hull Number 185). She was laid down at Sun Shipbuilding on 1 August 1939 along with her sister ship *Mormacland*. She was launched on 11 January 1940; Mrs. Diane B. Holt was her sponsor. When completed, she was 465 feet in length, with a beam of 69 feet 6 inches and displacing 11,905 tons. Four diesel engines turned a single screw to propel her at 16.5 knots.¹⁴

¹¹ McIntyre, p. 120.; Samuel Eliot Morison, *History of United States Naval Operations in World War II. Volume. II Operations in North African Waters October 1942 to June 1943*. (Boston: Brown, Little & Co., 1984.), pp. 36-37, 43-44, 118-119, 139, 150-155, 190, 223. [Hereafter cited as Morison II]; "Royal Navy Escort Carriers."

¹² Morison X, p. 39. See Footnote 13 of Morison's book.; "Royal Navy Escort Carriers."

¹³ DANFS.; "Royal Navy Escort Carriers."

¹⁴ "Sun Ship Hull Listing."; DANFS.



USS Long Island underway with a deck load of aircraft. (U.S. Navy Historical Center photo).

The U.S. Navy acquired *Mormacmail* on 6 March 1941 and converted her into an escort carrier. A flight deck, aircraft elevator, hangar and three deck guns were installed. After conversion at Newport News Shipbuilding, the ship displaced 13,499 tons and could operate up to 21 aircraft. Re-named *USS Long Island* (AVG-1), the escort carrier was

commissioned on 2 June 1941 under the command of Commander Donald B. Duncan.¹⁵

In many ways, *USS Long Island* served as the pioneer for the Navy's escort carrier force. Operations quickly revealed that her flight deck was not large enough and so it was expanded. Tests conducted on her enabled the Navy to develop escort carrier operational doctrine and to make improvements in the design of subsequent carriers. One of those improvements was the addition of an island structure for ship and air operations command and control which *Long Island* lacked.¹⁶

Long Island's primary function during World War Two was in training carrier pilots and ferrying replacement aircraft to U.S. bases in the Pacific Ocean. She was re-designated CVE-1 on 15 July 1943. She never saw actual combat but performed vital support for two major operations. Arriving on the West Coast just before the Battle of Midway, *Long Island* was attached to Admiral Pye's force of old battleships and provided air cover

¹⁵ DANFS.; McIntyre, p.119.

¹⁶ DANFS.

for the force which served as a reserve for the Midway battle. Then in August 1942, *Long Island* ferried two squadrons of U.S. Marine aircraft to the newly captured airbase on Guadalcanal. These aircraft fought valiantly in the subsequent battles and contributed significantly to the American victory on the island.¹⁷

USS Long Island's post-war career was quite varied. After the Japanese surrender, *Long Island* brought U.S. and Allied service members back home as part of Operation Magic Carpet. Decommissioned in March 1946, she was sold for scrapping in April 1947 but then purchased by a Canadian shipping line. Converted into a passenger liner, the renamed *Nelly* transported immigrants from Europe to Canada for several years. Then she became a school ship under the name of *Seven Seas*. After 13 years of sailing the seven seas with students, she was sold to the University of Rotterdam and became a floating dormitory. In May 1977 she was scrapped.¹⁸

HMS Archer (BAVG-1) (D78) (Former Mormacland)

On 1 August 1939, the cargo ship *Mormacland* (Sun Hull Number 184) and her sister *Mormacmail* were laid down at Sun Shipbuilding. On 14 December 1939, she was launched. In construction, *Mormacland* was nearly identical to her sister. On 6 May 1941, she was purchased by the U.S. Navy who intended to convert her into an escort carrier and then turn her over to the Royal Navy.¹⁹

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ "Sun Ship Hull List."; McIntyre, p.119.; DANFS.; "Royal Navy Escort Carriers."

HMS Archer was towed to the Newport News Shipbuilding and Drydock Company in Virginia for the conversion to an escort carrier. A flight deck which covered 70% of her hull was installed. Like her sister *USS Long Island*, *HMS Archer* lacked an island superstructure. The original bridge was modified but retained beneath the flight deck and a small navigation bridge was installed beneath the forward edge of the flight deck. Work was completed on 15 November and she sailed to New York, where the Royal Navy took possession of her on 18 November 1941.²⁰

During her sea trials, *HMS Archer* collided with an American merchant ship, *SS Brazos*, on 13 January 1942. The other ship sank and *HMS Archer* required extensive repairs at Charleston, South Carolina.²¹

In November 1942 *HMS Archer* supported the invasion of North Africa. She successfully escorted a U.S. troop convoy and ferried 30 U.S. P40 Warhawk fighter planes. Following the invasion, she underwent a major refit that also lengthened her flight deck.²²

The following year, *HMS Archer* became part of a U-Boat hunter-killer group. On 23 May 1943 while operating near convoy HX-239, one of her Swordfish aircraft caught *U-752* on the surface and attacked her with rockets. Her commander, Kapitänleutnant Karl Schroeter, quickly submerged the boat but the Swordfish's rockets had penetrated her hull in several places. Unable to stop the resulting flooding, Schroeter surfaced *U-752*. He was

²⁰ DANFS.; "Royal Navy Escort Carriers."

²¹ "Royal Navy Escort Carriers."

²² *Ibid.*; McIntyre, p. 120.; See also Morison II, p. 44.

immediately attacked by three more Swordfish and a Martlet fighter from *HMS Archer*. To prevent the capture of his boat, Schroeter scuttled her; thirteen survivors were rescued by a Royal Navy destroyer and ten more were saved by *U-91*.²³

Engine problems plagued the ship throughout her service with the Royal Navy. These problems required frequent repairs and overhauls. Finally, on 6 November 1943, the Admiralty decommissioned her. For the next year and a half, *HMS Archer* served as a stores and accommodations ship. At the beginning of August 1944, *HMS Archer* began yet another major overhaul. Over the next seven months, her propulsion system underwent major repair and replacement work to prepare her to serve as an aircraft ferry. The work was completed on 15 March 1945. Now called *Empire Lagan*, the ship was employed by the Ministry of War Transport as an aircraft ferry. She performed this function for the remainder of the war.²⁴

Empire Lagan (ex-*HMS Archer*) was returned to the U.S. Navy on 9 January 1946. Her return to the U.S. Navy was short-lived; on 26 February 1946, she was stricken from the Navy list of ships. Through the U.S. Maritime Commission *Empire Lagan* was sold. Refitted as a passenger ship by the Rederi A/S Pulp Company, the re-named *Anna Salen* served in this capacity until 1961. During this time, she underwent two more name changes: *Tasmania* and *Union Reliance*. While steaming in the Houston Ship Channel on 7 November 1961, *Union Reliance* collided with the Norwegian tanker *Beran*. She caught fire and was beached to prevent her from

²³Morison X, pp.82-83.; "Royal Navy Escort Carriers."

²⁴"Royal Navy Escort Carriers."

blocking the channel. She was subsequently sold for scrap. In March of 1962, she was scrapped in New Orleans, Louisiana.²⁵

HMS Avenger (BAVG-2) (D14) (Former Rio Hudson)

HMS Avenger (ex-*Rio Hudson*) (Sun Hull Number 186) was the first ship of the *Rio*-class of C-3 passenger/cargo ships originally intended for the Moore-McCormack Line. Laid down on 28 November 1939, she was launched a year later almost to the day. Her sponsor was Mrs. Warren Pierson. In size, she was similar to *Mormacmail* and *Mormacland*, but displaced two thousand less tons. Also she had two diesel engines which produced the same shaft horsepower and speed as her two predecessors.²⁶

Of the convoy routes sailed by Allied ships, the Arctic run to bring vitally needed supplies and equipment to the Soviet Union via the port of Murmansk was one of the most perilous. Convoys voyaging on this route had to contend with Arctic weather conditions as well as U-Boats and German aircraft based in Norway. Convoy PQ-17, for example, was nearly annihilated in August 1942, with over two-thirds of its ships sunk.²⁷

In September 1942, *HMS Avenger* escorted convoy PQ-18 on the perilous Murmansk run. For the voyage, she carried a dozen Sea Hurricane fighters and three Fairey Swordfish bi-planes. Under *HMS Avenger's* protection, PQ-18 suffered far less losses than her predecessor. Several ships were sunk but *HMS Avenger's* fighters were able to break up several German air attacks and shoot down several German aircraft.²⁸

²⁵ DANFS.; "Royal Navy Escort Carriers."

²⁶ Ibid.; "Sun Ship Hull List."

²⁷ McIntyre, p. 119.; DANFS.; "Royal Navy Escort Carriers."

²⁸ Ibid.

Following her work with convoy PQ-18, *HMS Avenger* became part of the Eastern Naval Task Force which supported the Eastern Assault Force in Operation Torch. Her aircraft provided air support for some 23,000 British and 10,000 American soldiers that assaulted the beaches of Algiers.²⁹

After completing her mission with Operation Torch, *HMS Avenger* joined an escort group protecting a convoy bound for Britain. *HMS Avenger's* time in service came to a violent and abrupt end on 15 November 1942. About forty-five miles south of Cape Santa Maria, Portugal, the convoy came under attack from the German submarine *U-155*. Three ships were torpedoed. *HMS Avenger* was struck amidships on the port side. The ship suffered massive internal explosions and sank in minutes, taking 513 of her crew with her. Only 12 officers and enlisted sailors survived.³⁰

***HMS Biter* (BAVG-3) (D97) (Former *Rio Parana*)**

Sun Hull Number 187 was the next *Rio*-class passenger/cargo ship. Her keel was laid down on 28 December 1939 and she was launched on 18 December 1940. Her sponsor was Miss Kay Calder Lee. She had a length of 465 feet, a beam of 69 feet six inches and a displacement of 9,080 tons. She was delivered incomplete to the U.S. Navy on 2 September 1941.³¹

After taking possession of the ship, the U.S. Navy had her moved to the Atlantic Basin and Iron Works in Brooklyn, New York, for conversion to an escort carrier. Both of her predecessors had been constructed without an island superstructure to control the ship and flight operations. This was changed with *HMS Biter*.

²⁹ Morison II, p. 190.; DANFS.; "Royal Navy Escort Carriers."

³⁰ Ibid.; Morison X, p. 39. See Footnote 13 of Morison's book.; DANFS.; "Royal Navy Escort Carriers."

³¹ "Sun Ship Hull List."; See DANFS entry for *HMS Biter*.; "Royal Navy Escort Carriers."

In May 1942, the U.S. Navy transferred her via the U.S. Maritime Commission over to the Royal Navy. On 6 May 1942, the Royal Navy commissioned her as *HMS Biter* (D97) with Captain Edward M. C. Abel-Smith, RN, in command.³²

After being outfitted and completing her sea trials, *HMS Biter* sailed with a convoy from Halifax, Nova Scotia, Canada to Scotland. Further repairs and construction work were completed at the Royal Navy base at Scapa Flow in the Orkney Islands.³³

Along with *HMS Dasher*, *HMS Biter* was part of the Center Naval Task Force operating in support of the Center Assault Force for Operation Torch. These two escort carriers provided air support for some 39,000 U.S. soldiers who invaded Oran and western Algeria.³⁴

In April 1943, *HMS Biter* formed the center-piece of a Royal Navy group escorting convoys in the North Atlantic. That month her aircraft helped sink *U-203* and the next month, her aircraft helped sink *U-89*. Her presence also helped deter attacks by several other U-Boats stalking the convoys.³⁵

On 17 November 1943, *HMS Biter* was the victim of a bizarre incident involving the new American acoustic torpedo 'Fido.' A Swordfish attempting to land in heavy seas had its live 'Fido' wrenched loose. The weapon fell into the sea and acquired *HMS Biter*. The escort carrier was struck in the rudder. The carrier continued operations for over a week before it was

³² DANFS.; "Royal Navy Escort Carriers."

³³ Ibid.

³⁴ Ibid.; Morison II, p. 223.

³⁵ McIntyre, p.121.; Morison X, pp.77-80.; "Royal Navy Escort Carriers."

discovered that the torpedo had in fact destroyed nearly two-thirds of the rudder. Repairs took a month to complete.³⁶

HMS Biter continued escorting convoys until August 1944 when conversion was begun to make her a transport carrier. While in port, she suffered a major fire. She was not repaired. The following April, she was returned to the U.S. Navy who refitted her and then transferred her again, this time to the French Navy. The French renamed her *Dixmude* and used her to support operations in French Indochina following the Japanese surrender. From 1956 to 1965, she was used as a barracks ship. In 1966, the French returned her to the U.S. Navy who later sank her as a target ship.³⁷

***HMS Dasher* (BAVG-5) (D37) (Former *Rio de Janeiro*)**

The fourth *Rio*-class passenger/cargo ship was *Rio de Janeiro* (Sun Hull Number 189). She was laid down on 14 March 1940 and launched on 11 April 1941. Her dimensions were the same as her three sister ships. *Rio de Janeiro* was converted into an escort carrier by the Tietjen and Lang Drydock Company of Hoboken, New Jersey and entered service with the Royal Navy as *HMS Dasher* 2 July 1942.³⁸

For the North African invasion, *HMS Dasher* and her sister *HMS Biter* were part of the Center Naval Task Force. Their aircraft supported U.S. soldiers in their amphibious assault on Oran and western Algeria.³⁹

³⁶ "Royal Navy Escort Carriers."

³⁷ *Ibid.*; DANFS.;

³⁸ "Sun Ship Hull List."; "Royal Navy Escort Carriers."

³⁹ Morison II, p. 223.; "Royal Navy Escort Carriers."

Inspired by the success of *HMS Avenger* in escorting convoys to Russia, the Royal Navy sent *HMS Dasher* to escort Russian-bound convoy in February 1943. Unfortunately, seams on the escort carrier began splitting and she was forced to return to port.⁴⁰

HMS Dasher continued in Royal Navy service until 27 March 1943. On that day, she was in the Clyde in the north of Scotland training her squadrons for an attack on the German battleship *Tirpitz*. Without warning, she suffered a catastrophic internal gasoline explosion. She burned and sank with a loss of 378 of her 528 officers and enlisted sailors.⁴¹

***HMS Charger* (BAVG-4) *USS Charger* (AVG-30) (CVE-30) (Former *Rio de la Plata*)⁴²**

Of the four *Rio*-class passenger/cargo ships converted to escort carriers for the Royal Navy, only *USS Charger* was returned during the war for service with the U.S. Navy. Laid down as Hull Number 188 on 19 January 1940, *Rio de la Plata* was launched 1 March 1941; her sponsor was Madame Felipe Espil. Her specifications were the same as her sister ships.⁴³

She was commissioned as *HMS Charger* under the command of Captain George Abel-Smith in the fall of 1941. Her service with the Royal Navy was short-lived, however. On 4 October 1941, she was transferred back to the U.S. Navy. Her conversion to an escort carrier was begun by the Newport News Shipbuilding Company in Virginia. Several months later she was re-classified as AVG-30. Though her conversion was still incomplete, *USS Charger* was commissioned on 2 March 1942 under the command of Captain Thomas

⁴⁰ Morison X, See Footnote 307.; "Royal Navy Escort Carriers."

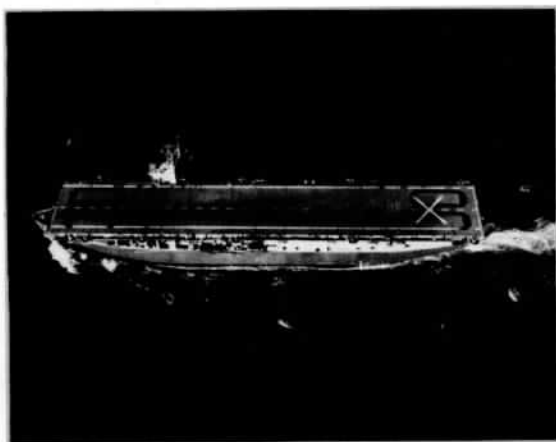
⁴¹ Morison X, p. 39. See Footnote 13.; "Royal Navy Escort Carriers."

⁴² The author's grandfather was a Motor Machinist Mate 3rd Class aboard *Charger* during World War Two.

⁴³ "Sun Ship Hull List."

Sprague. The Norfolk Navy Yard completed her conversion, adding an island and mast structure.⁴⁴

Except for a brief foray to Bermuda in support of the invasion of North Africa, *Charger* spent the war training carrier pilots in the Chesapeake Bay. *USS Charger's* mission was to qualify U.S. Navy and Royal Navy pilots in carrier operations. Typically, *Charger* would steam from either the Norfolk Navy Yard or an anchorage in nearby Hampton Roads and proceed to an operating area in the lower Chesapeake Bay. There she would conduct



USS Charger underway in the Chesapeake Bay. (National Archives photo)

flight operations during the day and oftentimes at night as well. When flight operations were completed for the day, she would anchor in the operating area overnight and resume operations the next day. This cycle would be repeated for several days or weeks at a time.⁴⁵

Pilots trained and qualified on her deck fought in air operations and battles across the Atlantic and Pacific Theaters. These included pilots of the famed Navy fighter squadron VF-17 "The Jolly Rogers" who amassed one of the highest aerial victory tallies of any squadron in the Pacific. In fact, CDR Tom Blackburn commanded two fighter squadrons that earned their

⁴⁴ DANFS.; United States Navy. *USS Charger*. War Diary. RG38. National Archives and Records Administration. Archives II - College Park, Maryland. See entries for 1942. [These official US Navy records are maintained by the National Archives in College Park, Maryland. Hereafter this document is cited as *Charger War Diary*.]

⁴⁵ Ibid.

carrier qualifications aboard *Charger*: VGF-29 flying F4F Wildcats in 1942 and VF-17 flying F4U Corsairs in 1943.⁴⁶

In his memoirs, Captain Tom Blackburn described his experiences with *Charger*. VF-17's F4U Corsairs were somewhat larger, heavier and faster than VGF-29's Wildcats. Writing of VF-17's qualifications, Blackburn recalled, "We busted a lot of wheels, blew a lot of tires and totaled several of our airplanes, but everyone eventually made his five qualifying landings aboard *Charger*."⁴⁷

After the war, *Charger* was decommissioned. She was sold 30 January 1947 to the Sitmar Shipping Line. After major renovations, *Charger* was converted to a passenger liner capable of accommodating 1,800 passengers and re-named *Fairsea*. From 1949 to 1969, *Fairsea* completed 81 voyages transporting war refugees and immigrants to Australia. After suffering a major fire in her engine room that caused heavy damage, her owners decided not to repair her and so she was sold for scrap. In the summer of 1969, *Fairsea* (ex-*USS Charger*) was broken up in La Spezia, Italy.⁴⁸

USS Santee (CVE-29) (Former Esso Seakay)

USS Santee was one of two *Cimarron*-class fast oilers constructed by Sun Shipbuilding and later converted to escort carriers. A total of four *Cimarron* oilers were so converted. *Santee* was laid down as *Esso Seakay* (Sun Ship Hull Number 173) on 18 April 1938 and launched 4 March 1939. Her sponsor was Mrs. Charles

⁴⁶ Ibid.; Tom Blackburn and Eric Hammel, *The Jolly Rogers: The Story of Tom Blackburn and Navy Fighting Squadron VF-17*. (St. Paul, MN: Zenith P, 1998), pp. 19, 44-45.

⁴⁷ Blackburn, pp. 44-45.; Blackburn retired from the US Navy as a Captain. His post-war career included command of the aircraft carrier *USS Midway* (CV-41).

⁴⁸ Museum Victoria (Australia.) "Post World War II Immigrant Ships: *Fairsea*." Museum Victoria Fact Sheet (2007). Found online at <http://museumvictoria.com.au/DiscoveryCentre/Infosheets/Fairsea/>; DANFS.

invasion force, they were assigned to support the sector least likely to mount aerial opposition. VGF-29 had only completed carrier qualifications aboard *Charger* a few weeks before. Naval historian Samuel Eliot Morison called *Santee* "the greenest of the carriers."⁵²

En route, a SBD-3 Dauntless scout bomber preparing to launch dropped a 325-pound depth bomb on the ship's flight deck. The depth bomb rolled off the flight deck and into the water, detonating near the port bow. The ensuing blast destroyed the ranger finder and damaged the radar and communications equipment.⁵³

Santee's participation in the Torch invasion was similarly plagued with mishaps. Due to aforementioned bomb damage to the aircraft homing equipment, five Wildcats on a patrol lost the ship and were forced to ditch at sea. The pilots, LCDR Blackburn included, were eventually rescued. The air group's inexperience resulted in it suffering nearly half of the total force's air losses. By 11 November 1942, *Santee* had lost 21 of its 31 aircraft either destroyed or missing; only one loss was due to enemy action. On the positive side, one Wildcat pilot shot down a Vichy French reconnaissance plane and the air group destroyed a dozen French aircraft on the ground at Morrakech airfield, albeit after the Armistice had been declared.⁵⁴

During 1943, *Santee* escorted convoys and patrolled the North Atlantic Ocean. In July and August 1943, *Santee* and another U.S. escort carrier - *USS Core* - patrolled the waters south of the

⁵² DANFS.; Morison II, p. 150.

⁵³ DANFS.; Blackburn, p. 21. Blackburn witnessed the Dauntless bomb incident and later attributed his flight's getting lost to the damage done to the ship's homing equipment.

⁵⁴ Morison II, pp. 150-2.

Kurz. *Esso Seakay* was delivered to Standard Oil Company of New Jersey on 23 March 1939 and entered service transporting oil. The oiler was 525 feet in length, 75 feet in beam and displaced 18,230 tons. She was powered by steam turbine engines and had two screws to propel her.⁴⁹

On 18 October 1940 was acquired by the U.S. Navy and commissioned on 30 October 1940 as *USS Santee* (AO-29) with Commander William G. B. Hatch in command. The Navy continued to use her as an oiler until the spring of 1942 when it was decided to convert four *Cimarron*-class oilers to escort carriers. She entered the Norfolk Navy Yard and conversion was begun. A flight deck, hangar and island were added.⁵⁰

In the fall of 1942, the U.S. Navy was desperate for escort carriers. So *Santee* (now CVE-29) was rushed into service in September. Following a hurried shakedown cruise, she was rushed to Bermuda; workmen were still aboard her completing the final construction. In Bermuda, she embarked a F4F Wildcat squadron, Navy escort fighting squadron VGF-29, under the command of LCDR Tommy Blackburn. VGF-29 had made the trip to Bermuda aboard *USS Charger*. The rest of *Santee's* air group consisted of 8 TBF Avenger torpedo planes and 9 SBD Dauntless scout/dive bombers.⁵¹

Linking up with *Ranger* and the other ex-tanker escort carriers, *Santee* sailed for North Africa to support Operation Torch. Her assignment was with the Western Naval Task Force / Southern Attack Group which was tasked with assaulting Safi in southern Morocco. Since her air group was the least experienced of the

⁴⁹ DANFS.; "Sun Ship Hull List."

⁵⁰ DANFS.

⁵¹ DANFS.; Morison II, p.40.

Azore Islands as roving hunter-killer groups. At the time, sixteen U-Boats were operating in this area, though some were only transiting the area. Aircraft from *Core* sank two U-Boats in three days.⁵⁵

At this time, *Santee's* aircraft were equipped with a new homing torpedo named "Fido." New tactics were developed whereby a Wildcat fighter would force a U-Boat running on the surface to submerge and then an Avenger torpedo plane would drop "Fido" on the submerged U-Boat. On 14 July 1943, *U-160* was sunk by one of the new "Fido" torpedoes using this new tactic. The next day, *U-509* suffered a similar fate. Two weeks later on 30 July, a Wildcat caught *U-43* on the surface preparing to re-fuel *U-403*. Both submarines hastily submerged but the Avenger dropped two depth charges and a "Fido" on *U-43*. In addition to carrying fuel for other U-Boats, *U-43* was carrying a load of sea mines. The Avenger's weapons set off massive explosions in *U-43* which obliterated the boat.⁵⁶

In February 1944, *Santee* was transferred to the Pacific Ocean. There she supported island invasions and ferried Marine Aircraft Group 21 to newly liberated Guam. In the fall of 1944, she supported the invasion of the Philippines; several of her aircraft attacked the Japanese surface force under Admiral Kurita in the Battle of Samar. Also during the Philippines operation, she was struck first by a Japanese kamikaze and then a Japanese torpedo. After repairs, *Santee* supported the Okinawa invasion in April 1945. Following the Japanese surrender, *Santee* transported repatriated Allied prisoners of war and

⁵⁵ Morison X, pp. 116-119.

⁵⁶ Morison X, pp. 117-119.

demobilizing American service members as part of Operation Magic Carpet.⁵⁷

Santee remained in active service until October 1946. While still in reserve she was re-designated as an escort helicopter carrier - CVHE-29 - in June 1955. She was struck for the Navy's ship list in March 1959 and sold to the Master Metals Company for scrapping on 5 December 1959.⁵⁸

Chenango (CVE-28) (former Esso New Orleans)

The second of two *Cimarron*-class oilers built by Sun Shipbuilding and converted to escort carriers was *USS Chenango* (Sun Ship Hull Number 174). Her keel was laid down on 14 July 1938 and launched 1 April 1939 as *Esso New Orleans*. Her sponsor was Mrs. M. L. Rathbone. Like her sister *Santee / Esso Sea Kay*, she was 525 feet in length, 75 feet in beam and displaced 18,230 tons. She was powered by steam turbine engines and had two screws to propel her.⁵⁹

The Navy acquired her on 31 May 1941 and commissioned 20 June 1941 as *USS Chenango* (AO-31) with Commander W. H. Mays in command. For almost a year, the Navy used her as a fleet oiler. Then in March 1942, the Navy began her conversion to an escort carrier. The conversion was completed in September 1942. She, too, was rushed into service to support the North Africa invasion; however, her mission was to transport 76 U.S. Army Air Force P40F Warhawk fighter planes.⁶⁰

⁵⁷ DANFS.

⁵⁸ Ibid.

⁵⁹ Ibid.; "Sun Ship Hull List."

⁶⁰ DANFS.

Conclusion

Conceived as an expedient, interim solution to the heavy toll of merchant ships being taken by German U-Boats, the escort carrier proved to be a remarkable successful and adaptable weapons platform. Due to wartime needs, existing merchant ships were rapidly converted to serve as small aircraft carriers. As its capabilities became better known, the escort carrier's mission was expanded to include pilot training, aircraft ferrying, and supporting amphibious invasions.

Eight merchant ships constructed by Sun Shipbuilding Company were eventually converted to escort aircraft carriers for the U.S. and Royal Navies. Four of these served with the Royal Navy: *HMS Archer* (ex-Mormacland), *HMS Avenger* (ex-Rio Hudson), *HMS Biter* (ex-Rio Parana), and *HMS Dasher* (ex-Rio de Janeiro). The other four served with the U.S. Navy: *USS Long Island* (ex-Mormacmail), *USS Charger* (ex-Rio de la Plata), *USS Santee* (ex-Esso Seakay), and *USS Chenango* (ex-Esso New Orleans).

Because they were among the first such conversions, numerous problems had to be overcome to make the conversion successful. Lessons learned in both their conversion and operation helped significantly in the design and construction of subsequent escort carriers. In addition, these eight small ships contributed significantly to the training of naval pilots and to the winning of the war at sea against the Axis Powers.



CVE 21	BLOCK ISLAND
CVE 23	BRETON
CVE 25	CROATAN
CVE 26	SANGAMON
CVE 27	SUWANNEE
CVE 28	CHENANGO
CVE 29	SANTEE
CVE 30	CHARGER
CVE 31	PRINCE WILLIAM
CVE 55	CASABLANCA
CVE 56	LISCOMB BAY
CVE 57	CORAL SEA / ANZIO
CVE 58	CORREGIDOR
CVE 59	MISSION BAY
CVE 60	GUADALCANAL
CVE 61	MANILA BAY

The Aircraft Carrier Memorial in San Diego, California. Photos by Author.

Along with the rest of the U.S. invasion support force, *Chenango* sailed from Bermuda for North Africa in late October 1942. Assigned to the Western Naval Task Force, *Chenango* waited off Casablanca until U.S. soldiers under the command of Major General George S. Patton, Jr. had seized the Port Lyautey airdrome. Then the P40s were flown off her deck and to the airdrome to operate ashore.⁶¹

Her work in the North African waters completed, *Chenango* returned to the United States. During the voyage, she battled through a hurricane that caused significant damage to the ship. Following repairs, *Chenango* was transferred to the Pacific Theater. In 1943, *Chenango* ferried aircraft to the Solomon Islands, provided air support for operations in the Solomons and launched air strikes in support of the Tarawa invasion. The next year, the carrier supported amphibious assaults in the Marshall Islands, Marianas Islands, and the Philippines Islands. In 1945, *Chenango* supported the Okinawa invasion. After the Japanese surrender, she transported Allied service members, and repatriated Allied prisoners of war and civilian prisoners of the Japanese back to the United States.⁶²

Chenango's post-war active duty career lasted only a few months. She was de-commissioned in Boston, Massachusetts and placed in reserve on 14 August 1946. She was reclassified CVHE-28, While still in reserve, she was reclassified as an escort helicopter carrier (CVHE-28) on 12 June 1955. In early 1960, *Chenango* was sold for scrap.⁶³

⁶¹ Ibid.; Morison II, pp. 40, 118-119.

⁶² DANFS.

⁶³ Ibid.