

## NATIONAL REGISTER ELIGIBILITY ASSESSMENT

**VESSEL: SS *Cape Fear*, ex-SS *Austral Lightning*, ex-SS *Lash España***



**SS *Cape Fear* berthed at MARAD's Suisun Bay Reserve Fleet in Benicia, CA, circa 1990s. Maritime Administration photograph.**

### Vessel History

SS *Cape Fear* is a lighter aboard ship (LASH) barge carrier. It was launched in 1971 at Avondale Shipyard in New Orleans, Louisiana as the *LASH España* for Prudential-Grace Lines, Inc. (known as the Prudential Steamship Company prior to January 1970). Intended for the company's U.S. East Coast–Mediterranean service, the ship was the third in a flight of 11 identical ships built at Avondale Shipyards for Prudential-Grace and Pacific Far East Lines. Prudential-Grace Lines operated *LASH España* in subsidized commercial service until the company sold it to Farrell Lines, which renamed it SS *Austral Lightning*. The Maritime Administration (MARAD) purchased *Austral Lightning* in 1985 for its Ready Reserve (RRF) and renamed it SS *Cape Fear* in 1993. In July of 2006, MARAD removed *Cape Fear* from the RRF and placed it in its National Defense Reserve Fleet (NDRF)<sup>1</sup> in retention status. The ship is currently moored at MARAD's Suisun Bay Reserve Fleet (SBRF) in Benicia, California.

LASH, or lighter aboard ship vessels, were designed to transport fully loaded barges in ocean freight service. An extension of the idea of the multimodal shipping container,

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<sup>1</sup> Section 11 of the Merchant Ship Sales Act of 1946 established the National Defense Reserve Fleet to serve as a reserve of ships for national defense and emergencies. At its height in 1950, the NDRF consisted of 2,277 ships kept at eight anchorages: Stony Point, New York; Fort Eustis, Virginia; Wilmington, North Carolina; Mobile, Alabama; Beaumont, Texas; Benicia, California; Astoria, Oregon; and Olympia, Washington. Today, the NDRF consists of three of its eight original anchorages located at Fort Eustis on the James River in Virginia; Beaumont, Texas; and Suisun Bay in Benicia, California.

the LASH system was developed to reduce the cost of shipping bulk cargo. As described in a contemporary trade journal, “[P]re-stowed lighters can be raised and lowered from the mother ship without lengthy in-port layovers, thereby offering an unparalleled express delivery service for shippers.” The LASH concept was developed by naval architect Jerome L. Goldman of Friede & Goldman, Inc., of New Orleans, who received a patent for the idea in 1966. He also founded LASH Systems, Inc., to license construction of LASH vessels based on his concept.<sup>2</sup>

These were the first LASH ships ordered for construction anywhere in the world, although two LASH ships built in Japan for Norwegian owners were the first to enter service. The five Prudential-Grace ships were the *LASH Italia* (delivered 1970, scrapped 1987), *LASH Turkiye* (1970), *LASH España* (1971, now the *Cape Fear*), *LASH Atlantico* (1974, scrapped 1996), and *LASH Pacifico* (1974, scrapped 1995). The six Pacific Far East ships were the *Thomas E. Cuffe*, *Golden Bear*, *Pacific Bear*, *Japan Bear*, *China Bear*, and *Philippine Bear*.<sup>3</sup>

The ship was constructed with a capacity of 73 cargo lighters. The custom lighters used in the LASH system, each measuring 61'-6" x 31'-2" x 14'-6" and weighing 500 short tons fully loaded, were built under a separate Avondale contract. To provide maximum cargo flexibility, *LASH España* and its sisters were equipped to carry barges, standard 20' containers, or a combination of both. According to a LASH Systems advertisement, the ship was expected to “provide for 80% of its general cargo capacity in the form of pre-loaded LASH lighters, with 20% of the capacity in cellularized standard containers. This ratio of lighters to containers can readily and easily be changed as the trade demands.” The ship was also built with tanks for 7,000 tons of liquid cargo or bulk grain.<sup>4</sup>

Prudential-Grace operated, *Lash España* between the East Coast and the Mediterranean.<sup>5</sup> Prudential-Grace made calls to Baltimore, for instance, every 11 days.<sup>6</sup> It also made regular port calls to Charleston, S.C. and Savannah, GA from Turkey, Greece, and Portugal.<sup>7</sup> In July 1976, Farrell Lines purchased the vessel and moved it from the Atlantic to the Pacific coasts and renamed it *Austral Lightning*. There with sister ships *Austral Moon* (ex-*Philippine Bear*) and *Austral Rainbow* (ex-*China Bear*), the vessel

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<sup>2</sup> Quote from Bob Ware, “The Editor’s Log,” *Marine Engineering / Log* (August 1870), 98; John Pope, “Jerome Goldman, a naval architect and real estate developer, dies at 89,” *New Orleans Times-Picayune*, Sept. 10, 2013; Jerome L. Goldman, “Integrated Barge and Cargo Ship Construction,” U.S. Patent 3,273,527, Sept. 20, 1966.

<sup>3</sup> Dillon, “Forty Years of Ship Designs,” 186–87; “U.S.-built LASH Now in Service,” *Marine Engineering / Log* (December 1970), 74; Frank A. Gerhardt, “The Maritime Administration Shipbuilding Program from 1950 to 1984,” chart reproducing contract data found in the Records of the Maritime Administration (RG 357), National Archives and Records Administration, [http://appendix.usmaritimecommission.de/documents/documents\\_main.htm](http://appendix.usmaritimecommission.de/documents/documents_main.htm).

<sup>4</sup> Dillon, “Forty Years of Ship Designs,” 186; “LASH Ship Launched for Prudential-Grace Lines,” *Marine Engineering / Log* (Oct. 1970), 74.

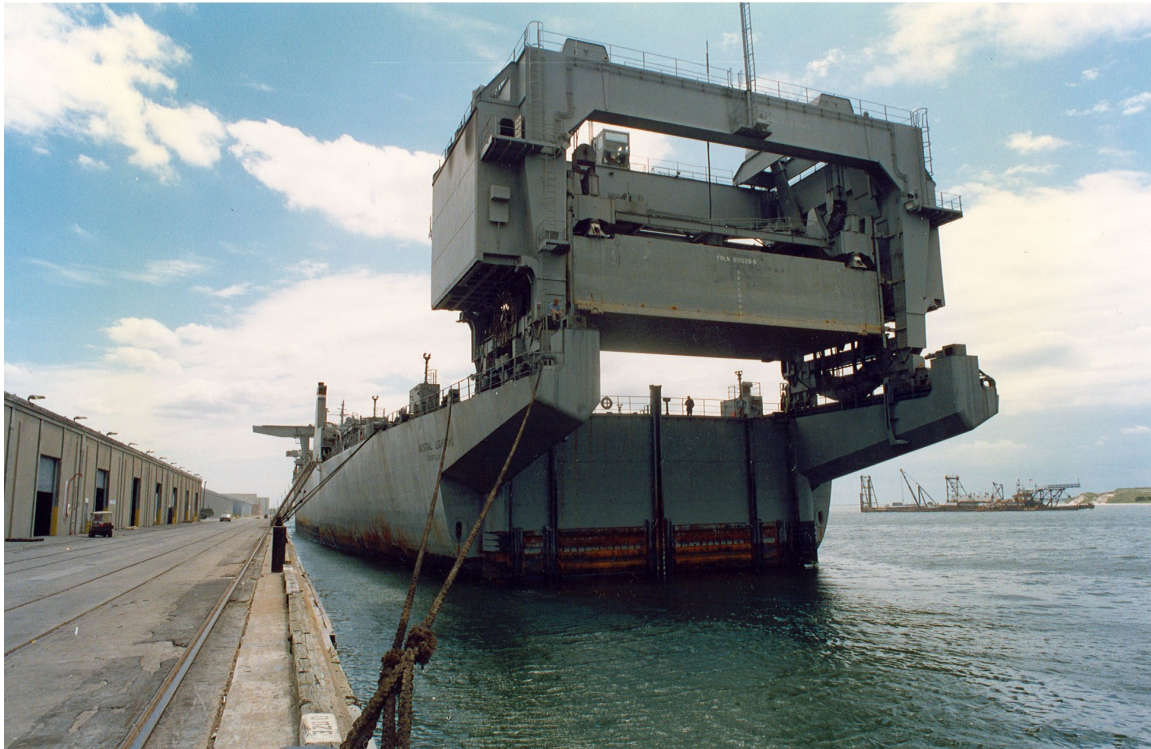
<sup>5</sup> “LASH system is key to sea cargo future in Maine.” *The Bangor Daily News*, 11 Feb 1973., “New ship service set for Hub.” *The Boston Globe*, 30 Nov 1972.

<sup>6</sup> “Lash Vessel Service Being Added Here,” *The Baltimore Sun*, 1 Jul 1971.

<sup>7</sup> “Eyebrow-Raising Ship Docks in Charleston.” *The State*, 5 Jul 1972. “LASH...leading a revolution in shipping.” *Hartford Courant*, 23 May 1971.

conducted Persian Gulf voyages.<sup>8</sup> Farrell Lines chartered *Austral Lightning* to the U.S. Navy's Military Sealift Command in 1982 and 1983. In 1984, the ship's status was noted as "currently idle and not assigned to a trade route."<sup>9</sup> *Austral Lightning* remained in service with Farrell Lines Inc. until 1985 when it was sold to MARAD.

## Maritime Administration



**SS *Cape Fear* as SS *Austral Lightning* prior to name change in 1993, date and location unknown. Maritime Administration photograph.**

MARAD purchased *Austral Lightning* in May 1985 from Farrell Lines. The ship was assigned to the agency's RRF. In 1985 *Austral Lightning* served as a development platform for a secret U.S. Army sponsored Computerized Deployment System (CODES) developed under the Naval Ocean Systems Center Hawaii Laboratory. This system was a precursor to the Integrated Computerized Deployment System ICODES program still in use today. ICODES is a fully integrated information system that provides multi-modal load planning capabilities for the Department of Defense (DoD). It combines the functionality of ship, air, truck, rail, and yard planning services with a single platform for planning shipment loads in war and peacetime.<sup>10</sup> During this time the vessel made

<sup>8</sup> "Tacoma Tradewinds." *The News Tribune*, 09 Jun 1976.

<sup>9</sup> MARAD Annual Reports 1982-1984.

<sup>10</sup> <https://www.sddc.army.mil/icodes/Pages/icodes.aspx> accessed 5-4-22.

three trips to the middle east carrying supplies and equipment for the U.S. Army and U.S. Airforce.<sup>11</sup>

In August 1990, the RRF consisted of 96 ships, 79 of which were activated to support Operations Desert Shield/Desert Storm. *Austral Lightning* supported Operations Desert Shield/Desert Storm from August 26, 1990 – February 26, 1992. This was the first large-scale activation and employment of the RRF since it was established as a higher-readiness component of MARAD's NDRF<sup>12</sup> in 1976. The ships performed valuable service to stop Iraqi military expansion in the Persian Gulf area and subsequently to liberate occupied Kuwait. Prior to RRF operations, NDRF vessels supported emergency shipping requirements in seven wars and crises. During the Korean War, 540 vessels were activated to support military forces. A worldwide tonnage shortfall from 1951 to 1953 required over 600 ship activations to lift coal to Northern Europe and grain to India. Another tonnage shortfall following the Suez Canal closing in 1956 activated 223 cargo ships and 29 tankers from the NDRF. From 1955 through 1964, another 698 ships stored grain for the Department of Agriculture. During the Berlin crisis of 1961, 18 vessels were activated and remained in service until 1970. During the Vietnam War, 172 vessels were activated.

### **Design Characteristics**

The ship was designed for a high service speed and has fine lines fore and aft as well as a protruding bulb bow. Short but deep bilge keels are fitted to reduce roll, and the ship carries passive anti-roll tanks. The hull is longitudinally framed except near the bow to provide deep open holds without intervening decks. Longitudinal bulkheads outboard of the holds serve as side tanks.<sup>13</sup>

As originally built, the ship provided dayroom, bedroom, and bath accommodations for the master, chief mate, chief engineer, and first assistant engineer; combined dayroom/bedroom plus bath accommodations for the other officers; and private cabins for the balance of the crew, with private baths for senior ratings and semi-private for junior ratings. During periods of activation with MSC, the ship had a crew of 24.<sup>14</sup>

The ship is powered by two Babcock & Wilcox boilers supplying two DeLaval steam turbines geared to a single shaft and a single, 23'-diameter, four-bladed screw. Maximum shaft horsepower when new was 32,000 at 105 rpm. Service speed was 22.5

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<sup>11</sup> Rost, Ronald F., John F. Addams, and John J. Nelson. Sealift in Operation Desert Shield / Desert Storm: 7 August 1990 to 17 February 1991, Report CRM 91-109. Alexandria, Va.: Center for Naval Analyses, May 1991., B-9.

<sup>12</sup> The NDRF was established under Section XI of the Merchant Ship Sales Act of 1946 to serve as a reserve of ships for national defense and national emergencies. The RRF component (subset) was established in 1976.

<sup>13</sup> Details of the ship's construction and equipment from "LASH Italia, First U.S.-Built Barge Carrier Completed," *Marine Engineering / Log* (January 1971), 37–41, 80.

<sup>14</sup> Norman Polmar, *The Naval Institute Guide to the Ships and Aircraft of the U.S. Fleet*, 18th ed. (Annapolis, Md.: Naval Institute Press, 2005), 310.

knots. The ship was not built with additional horsepower for national defense purposes. Steering is through a semi-balanced rudder carried on a horn.<sup>15</sup>

Ship's electrical service is supplied by two turbogenerators, one of 2,500 kW capacity powered by steam, and a second diesel generator with 2,000kW capacity. The ship has one evaporator with a capacity of 25,000 gallons per day.

*Cape Fear* can transport between 71 and 77 standard cargo barges and up to 840 containers. The ship has three 110'-long cargo holds forward of the engine room and two shorter holds aft of the engine room. The lighters can be stacked as much as four high in the holds. Thirteen 57-ton watertight steel pontoon hatch covers and one 81-ton two-panel folding hatch cover secure the lower holds. The ship is self-loading and -unloading, with a 446-ton-capacity traveling gantry crane for barge handling and a 30-ton-capacity traveling crane for container handling. The ship also has two 5-ton cargo cranes. In normal operation, the ship can load or discharge a lighter in about 20 minutes.<sup>16</sup>

Two 50-person-capacity lifeboats are carried on davits on either side of the deckhouse.

### **Historical Integrity**

The overall condition of *Cape Fear* is good; it has experienced only normal wear and aging for a vessel of its age. The ship did not undergo any substantial modifications during its service life, and it has retained much of its original form and its overall historical integrity.

### **Statement of Significance**

The LASH concept was developed by naval architect Jerome L. Goldman of Friede & Goldman, Inc., of New Orleans. *Cape Fear* was the third in a flight of 11 identical LASH ships built at Avondale Shipyards, Inc., New Orleans. These were the first LASH ships ordered for construction anywhere in the world, although two LASH ships built in Japan for Norwegian owners were the first to enter service. The ship activated for service during Operations *Desert Shield/Desert Storm*, where it, along with 79 others MARAD vessels, provided war materiel in support of U.S. and coalition forces.

### **National Register Eligibility Statement**

*Cape Fear* is 51 years old. *Cape Fear* and *Lihue*, (ex-*Thomas E. Cuffe*) are the two remaining LASH ships from MARAD's first subsidized contract of 11 ships built using the revolutionary design of naval architect Jerome L. Goldman. The design was almost immediately adapted by MARAD to build a larger series of ships one year later. The new LASH system required changes and upgrades to ports and caused alterations to the

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<sup>15</sup> Polmar, *Naval Institute Guide*, 310; Dillon, "Forty Years of Ship Designs," 206.

<sup>16</sup> Joseph S. Helewicz, "Lash Italia's first docking receives no fanfare here," *Baltimore Sun*, Jan. 9, 1971, B7

labor force, but it proved not as revolutionary as initially thought and the ships were soon carrying containers. Containerization would eclipse LASH barge systems quickly. Therefore, the design was not a lasting change in naval engineering or architecture.

*Cape Fear* was one of 79 RRF vessels activated by MSC to support *Desert Shield/Desert Storm* in 1990-91, however, its role was not significant enough to qualify under Criteria A, particularly considering the recent nature of those operations.

**Date: 29 July 2022**

**Determination: NOT ELIGIBLE**

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