

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549 FORM 6-K REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934 For the month of January 2025 Commission File Number: 001-34848 SEANERGY MARITIME HOLDINGS CORP. (Translation of registrant's name into English) 154 Vouliagmenis Avenue 166 74 Glyfada Athens, Greece (Address of principal executive office) Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F. Form 20-F ☐ Form 40-F ☐ INFORMATION CONTAINED IN THIS REPORT ON FORM 6-K Attached to this report (this "Report" on Form 6-K as Exhibit 99.1 is a copy of the press release of Seanergy Maritime Holdings Corp. (the "Company") dated January 28, 2025 titled "Seanergy Maritime Expands Fleet with Two Japanese Ships: One Newcastlemax Vessel and One Capesize Vessel." This Report on Form 6-K and the exhibit hereto, excluding the statements attributed to the Company's Chairman & Chief Executive Officer, are hereby incorporated by reference into the Company's Registration Statements on Form F-3 (File Nos. 333-280792, 333-253332, 333-238136, 333-237500, 333-166697 and 333-169813). SIGNATURES Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized. Date: January 29, 2025 ☐ SEANERGY MARITIME HOLDINGS CORP. ☐ By: /s/ Stamatios Tsantanis Name: Stamatios Tsantanis Title: Chief Executive Officer Exhibit 99.1 Seanergy Maritime Expands Fleet with Two Japanese Ships: One Newcastlemax Vessel and One Capesize Vessel ☐ January 28, 2025 - Glyfada, Greece - Seanergy Maritime Holdings Corp. (the "Company" or "Seanergy") (NASDAQ: SHIP) announced today that it has entered into two definitive agreements with unaffiliated third parties in Japan for (i) the purchase of a Japanese-built Newcastlemax vessel and (ii) a bareboat charter with a purchase obligation for one Japanese-built Capesize vessel. The total acquisition cost is approximately \$69.0 million. Acquisition of a Japanese Newcastlemax Vessel The Newcastlemax was built in 2013 at Imabari Shipbuilding Co., Ltd., Saijo Shipyard, a reputable Japanese shipyard, and has a cargo-carrying capacity of approximately 207,851 deadweight tons ("dwt"). The vessel will be renamed "Meiship" and is expected to be delivered within the first quarter of 2025, subject to customary closing conditions. Acquisition of a Japanese Capesize Vessel through Bareboat Charter Agreement The Capesize was built in 2011 at Mitsui SB and has a capacity of 178,459 dwt. Pursuant to the terms of the 6-month bareboat charter with an unaffiliated third party in Japan, Seanergy has advanced a down payment of \$4.0 million and will pay an additional \$4.0 million upon delivery of the vessel to the Company, as well as a daily bareboat rate of \$9,750 over the charter period. The vessel will be renamed "Blueship" and is expected to be delivered within the first quarter of 2025. At the end of the 6-month bareboat period, Seanergy has an obligation to purchase the vessel for \$22.5 million. The purchase price for the two vessels is expected to be funded with a combination of cash on hand and proceeds from credit facilities the Company will seek to enter into. Stamatios Tsantanis, the Company's Chairman & Chief Executive Officer, stated: "We are pleased to announce the addition of two high-quality Japanese vessels to Seanergy's fleet, which will integrate perfectly with our existing pure-play Capesize fleet. These transactions mark a significant milestone in the Company's strategic fleet expansion strategy, which is designed to strengthen our position within the industry. With a fully delivered fleet of 21 vessels and 3.8 million dwt, we are advancing our competitive edge through disciplined growth, in alignment with our focused capital allocation strategy. "We expect these acquisitions to further enhance our operational capabilities while reinforcing our commitment to delivering consistent shareholder returns. We believe that the deliveries of the two new vessels are well-timed, based on the higher level of the freight futures for the second half of 2025. "Despite the seasonal weakness, we remain confident in the long-term outlook of the Capesize sector, driven by favorable market fundamentals, a limited newbuilding orderbook, and what seems to be a sustained global demand for major raw materials." About Seanergy Maritime Holdings Corp. Seanergy Maritime Holdings Corp. is an international shipping company that provides marine dry bulk transportation services through the ownership and operation of dry bulk vessels. The Company's operating fleet consists of 19 Capesize vessels (1 Newcastlemax and 18 Capesize) with an average age of 13.8 years and aggregate cargo carrying capacity of approximately 3,417,608 dwt. Upon completion of the aforementioned transactions, the Company's operating fleet will consist of 21 vessels (2 Newcastlemax and 19 Capesize), with an aggregate cargo carrying capacity of 3,803,918 dwt. The Company is incorporated in the Marshall Islands and has executive offices in Glyfada, Greece. The Company's common shares trade on the Nasdaq Capital Market under the symbol "SHIP". Please visit our company website at: www.seanergymaritime.com. Forward-Looking Statements This press release contains forward-looking statements (as defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended) concerning future events, including with respect to fleet growth, market trends and shareholder returns. Words such as "may", "should", "expects", "intends", "plans", "believes", "anticipates", "hopes", "estimates" and variations of such words and similar expressions are intended to identify forward-looking statements. These statements involve known and unknown risks and are based upon a number of assumptions and estimates, which are inherently subject to significant uncertainties and contingencies, many of which are beyond the control of the Company. Actual results may differ materially from those expressed or implied by such forward-looking statements. Factors that could cause actual results to differ materially include, but are not limited to, the Company's operating or financial results; the Company's liquidity, including its ability to service its indebtedness; competitive factors in the market in which the Company operates; shipping industry trends, including charter rates, vessel values and factors affecting vessel supply and demand; future, pending or recent acquisitions and dispositions, business strategy, impacts of litigation, areas of possible expansion or contraction, and expected capital spending or operating expenses; risks associated with operations outside the United States; broader market impacts arising from trade disputes or war (or threatened war) or international hostilities, such as between Israel and Hamas or Iran and between Russia and Ukraine; risks associated with the length and severity of pandemics (including COVID-19), including their effects on demand for dry bulk products and the transportation thereof; and other factors listed from time to time in the Company's filings with the SEC, including its most recent annual report on Form 20-F. The Company's filings can be obtained free of charge on the SEC's website at www.sec.gov. Except to the extent required by law, the Company expressly disclaims any obligations or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in the Company's expectations with respect thereto or any change in events, conditions or circumstances on which any statement is based. For further information please contact: Seanergy Investor Relations Tel: +30 213 0181 522 E-mail: ir@seanergy.gr Capital Link, Inc. Paul Lampoutis 230 Park Avenue Suite 1536 New York, NY 10169 Tel: (212) 661-7566 E-mail: seanergy@capitallink.com