

OP NOTICE TO SHIPPING No. N-10-2023



Operational
Equipment Tests

January 1, 2023

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To: Shipping Agents, Owners and Operators

Subject: Operational Equipment Tests

1. Effective Date and Cancellation

This Notice is effective on the date of issue and cancels OP Notice to Shipping No. N-10-2022. A revised Notice will be issued in January of each year or when otherwise required.

2. Authority

This document is issued under the authority of the Maritime Regulations for the Operation of the Panama Canal (MROPC), OP Notice to Shipping No. N-1, and the International Convention for the Safety of Life at Sea (SOLAS). The International Association of Classification Societies (IACS) Unified Requirements, Unified Interpretations, and Guidelines and Recommendations are cited when required as good seamanship practice, essential for transiting the Panama Canal.

3. Purpose and Scope

a. Failure of operational equipment prior to or during transit is a problem of increasing concern to the Panama Canal Authority (ACP) because of its potential to affect the safety of transiting vessels as well as Canal facilities and equipment. These incidents frequently result in delays to shipping and/or inefficient use of Canal resources.

b. To ensure a vessel is ready to begin their transit, a joint effort between the master and Canal officials is arranged for testing the navigational and safety equipment. This is critical to ensure the transit is timely, safe and expeditious. Tests should contribute to identify problems before they have a negative impact on an operation which requires that all equipment on board be ready to repeatedly carry out maneuvers that are very seldom performed during ocean voyages.

c. The purpose of this document is to inform the shipping community of the procedures necessary to implement published regulations requiring the master to ensure,

by actual test, the readiness of his vessel before a transit begins and to ensure that the vessel's navigational and safety equipment comply with Canal and international regulations.

d. Recording a test as successful does not relieve the vessel of the responsibility of having all equipment ready and operational during the complete transit.

4. Procedure

a. The master shall assure himself, by actual equipment test and verification of compliance with Canal and international regulations, of the readiness of his vessel to transit safely, as per attached Test and Verification Procedure chart.

b. In addition, an Authority official may board the vessel before or while in transit to verify the operational condition of the equipment.

5. Reporting Deficiencies or Non-Compliance of Equipment

a. At least two hours prior to the "pilot boarding time" assigned by Maritime Traffic Control Unit, the master shall notify the Cristobal or Flamenco Signal Station that all equipment has been tested and is in operational condition and the vessel is ready to proceed. (*ACP Regulation on Navigation in Panama Canal Waters*)

b. Prior to commencing the transit, the master shall confirm to the pilot that all equipment has been tested and is in operational condition and the vessel is ready to proceed. (*ACP Regulation on Navigation in Panama Canal Waters*)

c. Masters of vessels with deficiencies, including equipment that does not perform as designed or required by standards, shall immediately notify the Cristobal or Flamenco Signal Station of the deficiencies and describe the type of problem. (*ACP Regulation on Navigation in Panama Canal Waters*)

d. The Canal Port Captain on duty will evaluate the vessel's conditions and determine if it will proceed to transit or be delayed until the deficiencies are corrected. If delayed, a new "ready to transit time" will be assigned when all deficiencies have been corrected to the satisfaction of the ACP. (*ACP Regulation on Navigation in Panama Canal Waters*)

e. Failure to perform the operational equipment test and/or report the vessel's condition may lead to transit delays until the Canal is satisfied that the vessel is safe to transit the Canal. (*ACP Regulation on Navigation in Panama Canal Waters*)

6. Calibration of Magnetic Compasses in Panama Canal Waters

a. It has recently come to the attention of the Panama Canal Authority (ACP) that in certain instances, the magnetic compasses of transiting vessels have been calibrated or repaired without following established procedures and internationally accepted practices, which could result in unsatisfactory performance of the equipment during the vessel's transit through the Panama Canal.

b. The ACP places great importance on a properly adjusted magnetic compass. For this reason, the ACP requires that whenever a magnetic compass is calibrated or repaired in Panama Canal waters, the vessel's master must sign the ACP boarding officer's inspection checklist, corroborating that the magnetic compass was serviced using the appropriate procedures and that the equipment is in proper working order for the transit.

c. A compass deviation card issued in Panama Canal waters without the corroborating signature of the master will not be accepted as valid and it will be considered as a vessel deficiency.

d. In order to comply with Panama Canal requirements and assure a safe and expeditious transit, masters of vessels bound for the waterway are encouraged to take necessary steps to ensure that their navigational equipment is properly serviced by a qualified technician.

ORIGINAL SIGNED

Ilya R. Espino de Marotta
Deputy Administrator and Vice President for Operations

TEST AND VERIFICATION PROCEDURE

[Applicable rules from the Maritime Regulations for the Operation of the Panama Canal (MROPC), OP Notice to Shipping N-1, International Convention for the Safety of Life at Sea (SOLAS), or International Association of Classification Societies (IACS) are indicated in brackets for immediate reference]

PRIOR ARRIVAL TO CANAL WATERS

MANEUVERING FUEL: If intending to transit, switch over main engine to marine distillate fuel. After completion of the changeover to marine distillate or light fuel, verify the correct operation of the main propulsion engine and auxiliary machineries. If necessary, perform the appropriate corrective measures to ensure the safe and expedite transit of the vessel in Panama Canal waters. *[OP Notice to Shipping N-1-2022, Section 32]*

SCRUBBERS: Vessels opting to use a scrubber shall verify that is a close loop scrubber in a zero discharge mode or a hybrid scrubber in closed loop and zero discharge mode. The effluent holding tanks shall be empty upon arrival at Panama Canal waters *[OP Notice to Shipping N-1-2022, Section 32]*

VERIFY UPON ARRIVAL AT THE ANCHORAGE

MAXIMUM DRAFT: Verify arrival draft, fore and aft in Tropical Fresh Water (TFW), the Minimum Salt Water Draft (TSW), and the Transit Draft in TFW if scheduled to work cargo or take bunkers. *[ACP Regulation on Navigation in Panama Canal Waters]*

LOAD, TRIM AND LIST: Verify that the load, trim and list are within safe limits. *[ACP Regulation on Navigation in Panama Canal Waters]*

TRANSIT DRAFT: Ensure that the vessel will be properly trimmed when in fresh water, and will not exceed at any point the Canal's Published TFW Draft limit, the Maximum Authorized Transit Draft established by the Authority for the vessel, or its Maximum Allowable Draft established by a classification society.

Vessels working cargo or taking bunker shall confirm the **TRANSIT DRAFT**, fore and aft, in TFW to the Signal Station as soon as possible prior to starting the transit.

For vessels anticipating a **TRANSIT DRAFT** exceeding 12.04 m (39' 06") for the Panamax Locks, 15.24 m (50.00") for the Neopanamax Locks or the Maximum Authorized Transit Draft established for the vessel, shall immediately inform the Signal Station of this condition. *[ACP Navigation Regulations]* **Vessels with drafts exceeding these figures are subject to denial of transit.**

**PERFORM WITHIN HOURS PRIOR TO TRANSIT,
BUT BEFORE PILOT BOARDS**

STEERING SYSTEM: Ships shall be provided with steering systems capable of putting the rudder over from 35° on one side to 35° on the other side. Rudder must travel from 35° on either side to 30° on the other side in not more than 28 seconds. Steering gear systems must comply with requirements stated in 1974/78 SOLAS Chapter II-1, Part C, Regulation 29.

At least 2 hours prior to Canal pilot boarding time, vessel's Masters are responsible for having completed testing and drills of steering gear system as indicated in *[ACP Regulation on Navigation in Panama Canal Waters]*

In the event of a power failure to any one of the steering gear power units, an audible and visual alarm shall be given on the navigation bridge.

Steering gear controls at the wheelhouse shall provide for the expedite change-over from steering Follow-Up (FU) mode to Non Follow Up (NFU) mode where applicable. Vessels equipped with emergency steering must be operational. All crew members working on the bridge must be familiar with the steering gear switch-over procedures and with the use of the emergency steering device. *[OP Notice to Shipping N-1-2022, Section 4].*

INDICATORS: Rudder angle indicators must be operational and easily read from all normal conning positions and from the steering station. Indicators are to be properly lit for night operation. Overhead rudder angle indicators located behind the pilot's conning positions are not acceptable.

DIESEL OR TURBINE PROPULSION SYSTEMS: Vessels having main engines arranged for air starting, shall have enough starting air capacity to produce twelve consecutive starts for reversible main engines and six consecutive starts for non-reversible main engines without recharging the air reservoirs. *[OP Notice to Shipping N-1-2022, Section 4; IACS, M61.1]*

DIESEL-ELECTRIC OR TURBINE-ELECTRIC PROPULSION SYSTEMS: Vessels having diesel-electric or turbine-electric propulsion arranged for air starting, shall have enough starting capacity to produce a total of six consecutive starts without recharging the air reservoirs provided that only one engine is necessary to maintain sufficient electrical load to permit the vessel to transit at full maneuvering power. When the vessel needs two engines to maintain sufficient electrical load for full maneuvering power, the require number of consecutive starts is eight. If three or more engines are necessary to keep sufficient electrical load for full maneuvering power, the requirement is 12 consecutive starts. *[OP Notice to Shipping N-1-2022, Section 4; IACS, M61.1.5]*

MACHINERY CONTROLS: Notwithstanding that the propulsion is controlled from the bridge or the engine room, the maximum allowable response time ahead or astern shall be 10 seconds or less. Where remote control of propulsion machinery is provided, the remote control of propulsion machinery shall be in good operating condition. Ensure that the computer or electronic controlled main engines cancel limits, overrides or program functions are operational and ready to be use as necessary.

It shall be possible to control the propulsion machinery locally, even in the case of failure in any part of the remote control system. In general, automatic starting, operation and control systems shall include provisions for manually overriding the automatic controls. Failure of any part of such systems shall not prevent the use of the manual override.

At least two independent means shall be provided for communicating orders from navigation bridge to the position in the machinery space or in the control room from which the engines are controlled: one of these shall be an engine room telegraph which provides visual indication of the orders and responses both in the machinery space and on the navigation bridge. [OP Notice to Shipping N-1-2022, Section 4]

INDICATORS: Indicators shall be fitted on the navigation bridge for propeller speed and direction of rotation in the case of fixed pitch propellers and propeller speed and pitch position in the case of controllable pitch propellers. These indicators must be operational, properly lit and easily read from all normal conning positions. [OP Notice to Shipping N-1-2022, Section 4]

ALARMS: Where remote control of propulsion machinery from the navigation bridge is provided, an alarm on the navigation bridge and in the machinery space must indicate when a low starting air pressure condition exist. [OP Notice to Shipping N-1-2022, Section 4]

STARTING AIR COMPRESSORS: At least two air compressors of approximately equal size, capable of charging the air containers within one hour. [OP Notice to Shipping N-1-2022, Section 4; IACS, M61.1.2]

EXERCISE AND/OR VERIFY SATISFACTORY OPERATION WITHIN THE LAST 24 HOURS

ANCHORS AND DECK MACHINERY: Exercise and verify that they are operational. Anchors shall be retrieved at a rate of no more than 3 minutes per shot (27 meters). The mooring winches and all warping heads shall be capable of retrieving the lines onboard at a rate of at least 37 meters (120 feet) per minute. The Master shall inform the ACP Boarding Officer whether or not the vessel complies with this requirement. Additional Canal deckhands or other resources may be assigned in those cases where the winches are not working or are with limited capabilities. *[OP Notice to Shipping N-1-2022, Section 9]*

CLOCKS: Ensure bridge and engine room clocks are synchronized. *[ACP Regulation on Navigation in Panama Canal Waters]*

COMMUNICATION: Verify that voice communications with bow, stern and engine room are working. *[ACP Regulation on Navigation in Panama Canal Waters]*

AUXILIARY AND EMERGENCY GENERATORS: Verify that they are operational. The capacity of the generating sets shall be such that in the event of any one generating set being stopped it will still be possible to supply those services necessary to provide normal operating conditions of propulsion and safety. *[1974/78 SOLAS, II-1, D-41 & 42 ; (ACP Regulation on Navigation in Panama Canal Waters); OP Notice to Shipping N-1-2022, Section 25 and 26]*

EMERGENCY LIGHTING: Verify that it is operational. *[1974/78 SOLAS, II-1, D-40 & 41; ACP Regulation on Navigation in Panama Canal Waters]*

FIRE FIGHTING: Verify that the pumps are operational. Operate the fire pump for five minutes and place an effective stream of water from the hose farthest from the pump and one hose near the bridge. *[ACP Regulation on Navigation in Panama Canal Waters]*

GENERAL ALARMS: Verify that they are operational. *[ACP Regulation on Navigation in Panama Canal Waters]*

GYRO COMPASS: Verify that gyros and repeaters are operational and accurate within ± 0.5 degrees of each other, and the gyro error is less than 2 degrees. *[1974/78 SOLAS V-19; ACP Regulation on Navigation in Panama Canal Waters; OP Notice to Shipping N-1-2022, Section 4]*

RADARS: Ensure all radars are operational. *[1974/78 SOLAS, V-19; ACP Regulation on Navigation in Panama Canal Waters]*

RADIO: Verify that required frequencies (Channels 12, 13 and 16) are operational, and monitor Channel 12. *[ACP Regulation on Navigation in Panama Canal Waters]*

SHIP'S WHISTLE: Verify that it is operational. *[ACP Regulation on Navigation in Panama Canal Waters]*

STEERING LIGHT: When required, verify that it is operational. *[ACP Regulation on Navigation in Panama Canal Waters]*

THRUSTERS, BOW AND STERN: If so equipped, verify that they are operational. *[ACP Regulation on Navigation in Panama Canal Waters]*

VERIFY SATISFACTORY COMPLIANCE WITH CANAL REQUIREMENTS
DECK PASSAGES AND WORKING SPACES: Verify that they are not obstructed. <i>[OP Notice to Shipping N-1-2022, Section 7]</i>
DECK WORKING LIGHTS: Verify that they are operational. <i>[OP Notice to Shipping N-1-2022, Section 7]</i>
ENGINE ORDER RECORDS: Verify that bell book is available or that automatic recorder is operational. <i>[ACP Regulation on Navigation in Panama Canal Waters]</i>
MANEUVERING CHARACTERISTICS: Verify that they are displayed in the wheelhouse. <i>[ACP Navigation Regulations]</i>
MANNING: Verify that the vessel is sufficiently manned. <i>[OP Notice to Shipping N-1-2021, Section 21]</i>
MOORING LINES: 1. Verify that at least four (4) of the lines on the bow and four (4) of the lines on the stern are stowed in winch drums, ready to be used on either side, and are in compliance with the material and minimum length requirements. 2. Verify that mooring tails attached to the end of HMPE lines, if used, comply with the requirements of the HMPE line manufacturer. 3. Verify that wires in the drums have been replaced by manila or synthetic mooring lines before transit. <i>[OP Notice to Shipping N-1-2022, Section 9]</i>
PILOT SHELTERS: Verify that if required, they are erected prior to starting the transit. <i>[OP Notice to Shipping N-1-2022, Section 3]</i>
PILOT AND ACCOMMODATION LADDERS: Verify that safe boarding facilities are rigged and in compliance with regulations. <i>[OP Notice to Shipping N-1-2022, Section 10]</i>
PROTRUSION: Verify that no protrusion extends beyond the vessel's hull. Vessels with protrusions shall report this condition to the Signal Station for evaluation by the Canal Operations Captain. <i>[OP Notice to Shipping N-1-2022, Section 2]</i>
SPARKS, SMOKE OR NOXIOUS GASES: Verify that necessary precautions have been taken to avoid issuance of sparks, smoke or noxious gases. <i>[ACP Regulation on Navigation in Panama Canal Waters]</i>
VISIBILITY: Verify that the vessel complies with the minimum visibility requirements for safe transit. <i>[OP Notice to Shipping N-1-2022; Section 4]</i>

SEWAGE: Sewage overboard discharge valves must be clearly marked, closed and secured by padlocks or other approved method when ships enter the Panama Canal Pacific Anchorage or Atlantic Anchorage areas, and must remain in that condition until vessel departs from Panama Canal waters. *[OP Notice to Shipping N-1-2022, Sections 27 and 29]*

BALLAST WATER: Ballast water overboard discharge valves must be closed and secured by padlocks or other approved method, and must remain in that condition until vessel completes the Canal transit. *[OP Notice to Shipping N-1-2022, Section 28]*

OILY WATER: Verify that the Oily Water Separator overboard discharge valve is clearly marked, closed and secured by padlocks or other approved method when ships enter the Panama Canal Pacific and Atlantic anchorage areas, and must remain in that condition until the vessel departs Canal waters. . *[OP Notice to Shipping N-1-2022, Section 29]*