



# Operational Equipment Tests



CANAL DE PANAMÁ



January 1, 2018

## **OP NOTICE TO SHIPPING No. N-10-2018**

---

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-10-2017. A revised Notice will be issued in January of each year or when otherwise required. This revision includes the following change:

- (1) The Test and Verification Procedure was modified from p. 5 to 9.

### **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 (1974/78 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 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 Navigation Regulations.*)

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 Navigation Regulations.*)

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 Navigation Regulations.*)

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 Navigation Regulations.*)

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 Navigation Regulations.*)

## **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**

Esteban G. Sáenz  
Executive 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, 1974/78 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 main engine to distillate fuel.

[OP Notice to Shipping N-1-2018]

**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 Navigation Regulations]

**LOAD, TRIM AND LIST:** Verify that the load, trim and list are within safe limits. [ACP Navigation Regulations]

**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.

Vessels anticipating a **TRANSIT DRAFT** exceeding 12.04 m (39' 06") 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 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 Navigation Regulations*.

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.

**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. [*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. [*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.

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.

**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-1-2018*]

**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.

**STARTING AIR COMPRESSORS:** At least two air compressors of approximately equal size, capable of charging the air containers within one hour. [*IACS, M61.1.2*]

<b>EXERCISE AND/OR VERIFY SATISFACTORY OPERATION WITHIN THE LAST 24 HOURS</b>
<b>ANCHORS AND DECK MACHINERY:</b> Exercise and verify that they are operational. Anchors shall be retrieved at a rate of no more than 3 minutes per shot (27 meters). Mooring winches' warping heads shall be capable of retrieving the lines used for pulling the locomotive wires onboard at a rate of at least 37 meters (120 feet) per minute.
<b>CLOCKS:</b> Ensure bridge and engine room clocks are synchronized. <i>[ACP Navigation Regulations]</i>
<b>COMMUNICATION:</b> Verify that voice communications with bow, stern and engine room are working. <i>[ACP Navigation Regulations]</i>
<b>AUXILIARY AND EMERGENCY GENERATORS:</b> 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. <i>[1974/78 SOLAS, II-1, D-41 &amp; 42 ; ACP Navigation Regulations]</i>
<b>EMERGENCY LIGHTING:</b> Verify that it is operational. <i>[1974/78 SOLAS, II-1, D-40 &amp; 41; ACP Navigation Regulations]</i>
<b>FIRE FIGHTING:</b> 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. <i>[ACP Navigation Regulations]</i>
<b>GENERAL ALARMS:</b> Verify that they are operational. <i>[ACP Navigation Regulations]</i>
<b>GYRO COMPASS:</b> Verify that gyros and repeaters are operational and accurate within $\pm 0.5$ degrees of each other, and the gyro error is less than 2 degrees. <i>[1974/78 SOLAS V-19; ACP Navigation Regulations; OP Notice to Shipping N-1-2018, Par. 4k]</i>
<b>RADARS:</b> Ensure all radars are operational. <i>[1974/78 SOLAS, V-19; ACP Navigation Regulations]</i>
<b>RADIO:</b> Verify that required frequencies (Channels 12, 13 and 16) are operational, and monitor Channel 12. <i>[ACP Navigation Regulations]</i>
<b>SHIP'S WHISTLE:</b> Verify that it is operational. <i>[ACP Navigation Regulations]</i>
<b>STEERING LIGHT:</b> When required, verify that it is operational. <i>[ACP Navigation Regulations]</i>
<b>THRUSTERS, BOW AND STERN:</b> If so equipped, verify that they are operational. <i>[ACP Navigation Regulations]</i>

<b>VERIFY SATISFACTORY COMPLIANCE WITH CANAL REQUIREMENTS</b>
<b>DECK PASSAGES AND WORKING SPACES:</b> Verify that they are not obstructed. [ <i>ACP Navigation Regulations</i> ]
<b>DECK WORKING LIGHTS:</b> Verify that they are operational. [ <i>OP Notice to Shipping N-1-2018, Par. 7i</i> ]
<b>ENGINE ORDER RECORDS:</b> Verify that bell book is available or that automatic recorder is operational. [ <i>ACP Navigation Regulations</i> ]
<b>MANEUVERING CHARACTERISTICS:</b> Verify that they are displayed in the wheelhouse. [ <i>ACP Navigation Regulations</i> ]
<b>MANNING:</b> Verify that the vessel is sufficiently manned. [ <i>ACP Navigation Regulations</i> ]
<b>MOORING LINES:</b> Verify that they are on deck, ready and in good condition. [Six (6) forward and six (6) aft]. Verify that they are not composed wire or of both wire and fiber or filaments. Vessels transiting the Neopanamax Locks shall have stowed four (4) of the lines on the bow and four (4) of the lines on the stern in winch drums and they must be ready to be used in the operation. [ <i>OP Notice to Shipping N-1-2018; ACP Navigation Regulations</i> ]
<b>PILOT SHELTERS:</b> Verify that they are erected prior to starting the transit. [ <i>ACP Navigation Regulations</i> ] Bow shelters must be available on vessels of a total length of 213.36 m (700') or greater.
<b>PILOT AND ACCOMMODATION LADDERS:</b> Verify that safe boarding facilities are rigged and in compliance with regulations. [ <i>ACP Navigation Regulations</i> ]
<b>PROTRUSION:</b> 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-1-2018; ACP Navigation Regulations</i> ]
<b>SPARKS, SMOKE OR NOXIOUS GASES:</b> Verify that necessary precautions have been taken to avoid issuance of sparks, smoke or noxious gases. [ <i>ACP Navigation Regulations</i> ]
<b>VISIBILITY:</b> Verify that the vessel complies with the minimum visibility requirements for safe transit. [ <i>OP Notice to Shipping N-1-2018; ACP Navigation Regulations</i> ]