CANAL DE PANAMÁ 3654-A (OPXI) V. 4-2-2015

AUTORIDAD DEL CANAL DE PANAMÁ EXECUTIVE VICE PRESIDENCY FOR OPERATIONS

ADVISORY TO SHIPPING No. A-34-2017

September 22, 2017

TO: All Shipping Agents, Owners, and Operators

SUBJECT: Applicable Pricing Structure by Definition of Vessel Types

Ship types are assigned to vessels on their first Canal transit based on criteria that considers both original design and cargo carried. The criteria are based on the Regulation for the Admeasurement of Vessels to assess Tolls for use of the Panama Canal and are consistent with international standards and conventions. The ACP's Admeasurement Unit is responsible for assigning ship types according to the information provided by the customer.

The Panama Canal Authority (ACP) established a market segmentation structure in 2002 based on ship types and cargo characteristics, and introduced a pricing system in 2005 based on TEUs for container vessels and other vessels with container-carrying capabilities. In May of 2007, the ACP implemented toll differentiation based on market segments. In October 2012, in order to strengthen and customize the value of the route, the tanker segment was redefined into three more specific segments: tankers, gas carriers and chemicals tankers. In addition, the vehicle carrier segment was redefined whereby the Roll On/Roll Off vessels were incorporated into this segment.

The LNG segment was established In April 2015, but was implemented in April 2016, to incorporate gas carrier vessels transporting liquefied natural gas.

Effective October 1, 2017, Container/Breakbulk vessels from the segment "others" will be reassigned to the general cargo segment.

Ship Type Code:

| MARKET SEGMENT | SHIP TYPES | Ship Type Code |
|---------------------------------|--------------------------|-------------------|
| General Cargo | General Cargo | 01 |
| | Container/Breakbulk Ship | 06 |
| Refrigerated Cargo | Refrigerated Cargo | 02 |
| Dry Bulk Carriers | Dry bulk carrier | 03 |
| | Vehicle/Dry Bulk Carrier | 10 |
| | Woodship Carrier | 27 |
| Crude/Product Tankers | Crude/Product Tanker | 28 |
| Chemical Tankers | Chemical Tanker | 29 |
| Liquefied Petroleum Gas Carrier | LPG Carrier | 12 |
| Liquefied Natural Gas carrier | LNG Carrier (Moss) | 30 |
| | LNG Carrier (Membrane) | 31 |
| | LNG Carrier (Other) | 32 |

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| Container Vessels | Full Container Ship | 07 |
|------------------------------|--------------------------------|----|
| Vehicle Carriers/RoRo | Roll On/Roll Off | 80 |
| | Vehicle Carrier | 09 |
| Passengers | Passengers Vessel | 11 |
| Others | Dry/Liquid Bulk Carrier | 05 |
| | Barge Carrier | 13 |
| | Barge, Not Self-Propelled | 14 |
| | Barge, Self-Propelled | 15 |
| | Fishing Vessel | 16 |
| | Factory Ship | 17 |
| | Tug | 18 |
| | Research Vessel | 19 |
| | Cable Ship | 20 |
| | Yacht | 21 |
| | Rig Tender/Supply Vessel | 22 |
| | Tank Barge, Not Self-Propelled | 23 |
| | Tank Barge, Self-Propelled | 24 |
| | Barge Integrated | 25 |
| | Tank Barge Integrated | 26 |
| | Other PC-Net | 50 |
| Others (pay by Displacement) | Dredge | 90 |
| | Floating Drydock | 91 |
| | Warship | 93 |
| | Submarine | 94 |
| | Other Displacement | 99 |

General Cargo Segment

This segment includes all vessels that transport individual items, such as boxes, pieces of equipment and penalized cargo. This segment is not considered time sensitive.

General Cargo (01). A vessel designed to carry break-bulk general or dry cargo. Built to transport individual items such as boxes, pieces of equipment, and penalized cargo. Any and all cargoes are loaded either in drums and bales or on pallets, primarily non-refrigerated. Such cargoes are put in general holds with no specialization. This type of vessel will generally be multi-deck with facilities for loading/discharging cargo.

Container/Break Bulk Ship (06). A vessel specially designed to carry containers and/or break bulk cargoes below deck. This type of vessel will typically have full width hatches and boxed holds for the carriage of break bulk cargo and/or containers and many are fitted with gantry cranes.

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Refrigerated Cargo Segment

This segment requires timely transit but carries less valuable cargo. It includes specialized vessels known as reefers that generally transport perishable cargo.

Refrigerated Cargo Carrying Vessels ("Reefers") (02). A multi deck cargo vessel whose cargo spaces are predominantly designed for the transport of refrigerated cargo such as fruit, meat, and other food products across the sea at various temperatures. Includes cargo vessels with 80% or more insulated cargo space.

Dry Bulk Carriers Segment

This segment is largely price-driven due the relatively large volume and low value of the cargo transported. This segment category includes vessels known as bulk carriers. The main commodities transported in dry bulkers are grains and other agricultural commodities, minerals, metals and ores, coal and coke, fertilizers and lumber products. This segment includes Dry bulk carriers, Vehicle/Dry Bulk Carriers and Woodchip carriers.

Dry Bulk Carrier (03). A vessel designed to carry dry cargo in bulk such as coal, iron ore, grain, scrap metal, etc. This type of vessel is normally single deck with topside tanks capable of carrying a variety of self-trimming cargo.

Vehicle/Dry Bulk Carrier (10). A bulk carrier with movable decks for additional carriage of vehicles. The vessels use the container ship principle to stow platforms loaded with cars into cellular holds. These platforms can also carry other cargoes such as lumber.

Woodchip Carrier (27). A single deck cargo vessel designed for the carriage of wood chips.

Crude/Product Tanker (28). A tanker for the bulk carriage of crude oil and also refined oil products.

Chemical tanker (29). A tanker for the carriage of chemical cargo, lube oils, vegetable/animal oils and other chemicals as defined in the International Bulk Chemical Code.

Liquefied Petroleum Gas Carrier (12). A tanker for the bulk carriage of Liquefied Petroleum Gas in insulated tanks, which may be independent or integral. The cargo is pressurized (smaller vessels), refrigerated (larger vessels) or both (semi-pressurized) to achieve liquefaction. The most common cargoes are ammonia, propane and butane.

Liquefied Natural Gas Carrier: A tanker for the bulk carriage of Liquefied Natural Gas (primarily methane) in independent insulated tanks. This segment includes:

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LNG carrier – Moss (30): Consists of a robust spherical tank structure engineered with a unique support system and an un-stiffened structure. The tank is insulated on the outside. Normally, propulsion systems include steam turbine, dual fuel diesel-electric propulsion and slow-speed diesel engines. Most Moss type vessels have 4 or 5 tanks.

LNG carrier – Membrane (31): Tank ship designed for transporting liquefied natural gas which is contained by a thin stainless or nickel alloy flexible membrane. The membrane may be Invar (Gaz Transport) or stainless steel (Technigaz). The tanks are not self-supporting as in the Moss design, they are built against the inner (double) hull of the vessel.

LNG carrier – Other (32). Other tank ship different than Moss (30) and Membrane (31) designed for transporting liquefied natural gas, such as IHI (Prismatic IMO type B LNG tanks), TGZ Mark III, GT96 and CS1.

Container Vessels Segment

This segment is extremely service driven and also time sensitive due to the vessels' rigorous schedules and the fact that they carry mostly high-value manufactured goods.

Full Container ship (07). A vessel specifically designed or converted to transport containers above the upper deck and that has cellular guides permanently affixed in its holds.

Vehicle Carriers and Ro/Ro Segment

This segment is also service-driven and time-sensitive due to the high value of the cargo and type of vessel utilized. This segment includes mainly PCC (pure car carriers), PCTC (pure car truck carriers) and container/trailer ships.

Roll On/Roll Off (08). A vessel which is specially designed to carry wheeled cargo such as trucks, trailers or rolling containers, and only use the roll on/roll off method for loading and unloading. Containers and trailers are stowed on board on their transport wheels. Vessels of these types do not have any hatchways and have movable decks to accommodate variable sized cargo. Includes: CT - Container/Trailer Ships.

Vehicle Carrier (09). A highly specialized multi deck cargo ship that is designed to carry cars, trucks and other wheeled or tracked (i.e. self-propelled) vehicles and whose decks are permanent and cannot be removed to accommodate other types of cargo. The vessel is fitted with ramps, which enable the vehicles to be driven on and off the ship.

Passenger Vessels Segment

This segment is largely service driven, very seasonal and includes all types of cruise vessels.

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Passenger Vessel (11): A vessel whose main activity is passenger transportation, which is subject to fixed routes and common knowledge. Normally this type of vessel offers accommodation for more than twelve (12) passengers. Those vessels have been designed exclusively for passenger transportation and are eligible for the implementation of a toll per berth. Those passenger vessels, that in addition to passengers carry other cargo, remain under the current PC/UMS toll scheme.

Others

Dry/Liquid Bulk carrier (05). A vessel designed to carry both liquid and dry bulk cargo either at the same time or alternately. Includes Ore/Oil Carriers, Bulk/Oil Carriers, Ore/Bulk/Oil Carriers.

Barge Carrier (13). A vessel specially designed to carry barges. This type of vessel may also carry containers and barges at the same time or may be fitted to act as a full container vessel. However, its primary purpose is the carriage of barges. Includes Lash (Lighter Aboard Ship), Sea bee (also called "Lighter Carriers").

Barge, Not Self-Propelled (14). A barge without its own means of propulsion. Includes: Individual lighter units usually carried by barge carriers but being towed through the Canal independently. Excludes Tank Barge, Not Self - Propelled (23).

Barge, Self-Propelled (15). A barge with its own means of propulsion. Excludes: Tank Barge, Self - propelled (24).

Fishing Vessel (16). A vessel designed primarily for the capture of fish and other marine species. Includes Trawlers, Purse Seiners and Shrimpers.

Factory Ship (17). A vessel designed with the proper installations for processing fish or other marine species. The process might consist of canning, packaging, oil extraction, fishmeal manufacture and others. Factory ships usually carry plant workers in addition to the regular crew complement. Includes Floating fishmeal plants, Fish packers and Whale oil factories.

Tug (18). A boat used for towing and pushing other vessels.

Research Vessel (19). A vessel engaged in scientific or commercial research and carrying the necessary equipment and gear for this purpose. Includes oil exploration and exploitation research vessel, Fishing research vessel, oceanographic and other scientific research (geophysical, etc.).

Cable Ship (20). A vessel fitted for laying and repairing underwater cables.

Yacht (21). Any vessel, which can be identified as a pleasure craft (non-commercial use). Includes Sailboats and Motorboats.

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Rig Tender/Supply Vessel (22). A vessel designed to carry personnel, supplies, equipment, fuel, mud and/or water to offshore oil rigs.

Tank Barge, **Not Self-Propelled (23).** A barge without its own means of propulsion designed for the carriage of liquid cargoes below deck or in fixed tanks above deck.

Tank Barge, Self-Propelled (24). A barge with its own means of propulsion designed for the carriage of liquid cargoes below deck or in fixed tanks above deck. Includes Tank barges with outboard motors. Excludes Tankers (04), Gas Carriers (12).

Barge Integrated (25). A non-tank barge designed to be rigidly connected to a pushing vessel in such a manner as to form a composite unit. A composite unit means two vessels connected by "mechanical means" so that they react to the sea and swell as one vessel so as to be considered a single power-driven vessel. The bridge wings of the pushing vessel (tug) should extend all the way as to be flush with the barge's extreme beam.

Tank Barge Integrated (26). A tank barge designed to be rigidly connected to a pushing vessel in such a manner as to form a composite unit. A composite unit means two vessels connected by "mechanical means" so that they react to the sea and swell as one vessel so as to be considered a single power-driven vessel. The bridge wings of the pushing vessel (tug) should extend all the way as to be flush with the barge's extreme beam.

Other-PC Net (50). Vessel types not classifiable under any specific ship type code mentioned above. Includes: Hospital ships, Troop ships, Buoys, Rail, Ferry, Icebreaker, Floating crane, Army and navy transport and Supply ships.

Others (pay by Displacement)

The vessels under this category pay tolls based on the Fully Loaded Displacement.

Dredge (90). A vessel equipped to obtain material from the sea bed by an unspecified means. The material may be carried on board, transferred to other vessels, pumped ashore or deposited elsewhere using a spray.

Floating Drydock (91). A dock that floats on the water and can be partially submerged to permit a ship to enter it and afterward floated to raise the ship high and dry as in a permanent dry dock.

Warship (93). A ship belonging to the naval forces of a State, and bearing the external marks distinguishing warships of its nationality, under the command of an officer duly commissioned by the government and whose name appears in the Navy List, and manned by a crew, which is under regular naval discipline.

Submarine (94)

Vessel designed for underwater operations primarily for military purposes.

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Other Displacement (99)

Any other type of vessel for which the application of a PC/UMS Net Tonnage would be impractical.

Questions regarding ship types may be addressed to the Panama Canal Admeasurement Unit as follows: arqueadores@pancanal.com and optc-as@pancanal.com.

ORIGINAL SIGNED

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