



**THE PORT
OF LOS ANGELES**
Executive Director's
Report to the

Board of Harbor Commissioners

DATE: APRIL 25, 2012

FROM: ENVIRONMENTAL MANAGEMENT

**SUBJECT: TEMPORARY ORDER NO. _____ AND PERMANENT
ORDER NO. _____ - AMENDING PORT OF LOS ANGELES
TARIFF NO. 4, SECTION 20 - CLEAN AIR ACTION PLAN GENERAL
RULES AND REGULATIONS - ENVIRONMENTAL SHIP INDEX**

SUMMARY:

Staff requests that the Board of Harbor Commissioners (Board) approve and adopt an amendment to Port of Los Angeles (Port) Tariff No. 4 to add a new Environmental Ship Index (ESI) incentive program to accelerate implementation of ocean-going vessel (OGV) emission reductions under the San Pedro Bay Ports Clean Air Action Plan (CAAP). ESI is an international clean ship indexing program developed through the International Association of Ports and Harbors (IAPH) World Ports Climate Initiative (WPCI). ESI assigns clean ship ratings to vessels, and ports can provide incentives to reward top performers.

The goals of this program are for operators to participate in the ESI incentive program by purchasing the cleanest available fuel, deploying the newest and cleanest ships to call at the Port, installing shore power technology on-board, and demonstrating nitrogen oxides (NOx) and diesel particulate matter (DPM) reduction technologies from main engines through the City of Los Angeles Harbor Department's (Harbor Department) Technology Advancement Program (TAP). The ESI incentive program is scheduled to begin July 1, 2012 with an estimated first-year cost of \$450,000.

RECOMMENDATION:

It is recommended that the Board of Harbor Commissioners:

1. Approve an amendment to add new item 2060 – Voluntary Environmental Ship Index Incentive Program in the Port of Los Angeles Tariff No. 4, Section 20, Clean Air Action Plan – General Rules and Regulations, subject to California Association of Port Authorities (CAPA) review and approval, and authorize the Executive Director to work with CAPA to secure this approval or proceed to take independent action in accordance with CAPA procedure;

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2. Adopt Temporary Order No. 12 - _____ and Permanent Order No. 12 - _____ amending Section 20, Clean Air Action Plan – General Rules and Regulations, and adding Item 2060 – Voluntary Environmental Ship Index Incentive Program to the Port of Los Angeles Tariff No. 4;
3. Authorize the Board Secretary to certify to the adoption of the Temporary Order by the Board and, after CAPA approval of the tariff (or Executive Director notice of taking independent action in accordance with CAPA procedure) to cause the same to be published once in a newspaper printed and published in the City of Los Angeles, to take effect prior to adoption by Ordinance for a period not to exceed 90 days pursuant to Charter Section 653(b);
4. Direct the Board Secretary, after CAPA approval of the tariff (or Executive Director notice of taking independent action in accordance with CAPA procedure), to transmit to the City Council for approval the Permanent Order and Ordinance approving and authorizing the amendment to Port of Los Angeles Tariff No. 4 pursuant to City Charter 653(a); and
5. Authorize the Board Secretary to execute the Permanent Order and proposed Ordinance amending Port of Los Angeles Tariff No. 4, and upon its publication, transmit the Order and Ordinance to the Chief Wharfinger for implementation of the tariff change and posting the amended Port of Los Angeles Tariff No. 4 to the Port's website as regulated by the Federal Maritime Commission.

DISCUSSION:

Background - On November 22, 2010, the Los Angeles and Long Beach Boards of Harbor Commissioners approved the 2010 CAAP Update. The 2010 CAAP Update focuses on new, far-reaching goals for curbing Port-related air pollution over the next decade. OGV emissions represent 57 percent of the total emissions from Port operations, and emissions from OGVs are expected to increase with future growth and as other Port source categories are regulated and controlled. Consequently, a key component of the CAAP Update is the implementation of measures controlling emissions from OGVs.

Specifically, the 2010 CAAP Update established the Cleaner OGV Engines Measure (OGV5) and the OGV Engine Emissions Reduction Technology Improvements Measure (OGV6). OGV5 focuses on the early introduction and preferential deployment of vessels meeting the International Maritime Organization (IMO) Tier III NOx limit of 3.4 g/kW-hr that call at the Ports of Los Angeles and Long Beach (Ports). OGV6 seeks to encourage demonstration and deployment of cleaner OGV engine technologies that are validated by the California Air Resource Board (CARB) through the TAP. This measure focuses on reducing DPM and NOx emissions from the main engines of in-use vessels. The

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Ports are working with industry partners and engine manufacturers to identify promising technologies that achieve emission reductions, and with our regulatory partners to secure verification.

New Vessel Builds - The IMO requires all vessels built between 2011-2015 to install Tier II engines. A Tier II engine has a NOx limit of 14.4 g/kW-hr. A Tier II engine is 15 percent cleaner than Tier I engines in use today. Vessels built after 2016 and entering IMO's North America Emission Control Area (ECA) require Tier III engines. A Tier III engine has a NOx limit of 3.4 g/kW-hr. A Tier III engine is 80 percent cleaner than Tier I engines in use today.

Environmental Ship Index Program - The Environmental Ship Index Program was developed in 2010 by the IAPH/WPCI. The program was officially launched in January 2011. IAPH/WPCI seeks international collaboration among ports and shipping lines to reduce air emissions and greenhouse gases and promote sustainability. Shipping lines voluntarily register their vessels in the ESI program and provide quarterly data updates. Information reported includes: engine specifications and emissions certification, fuel purchased as evidenced by Bunker Delivery Notes, installation of plug-in ready on-board shore power equipment, and development and use of a Ship Energy Efficiency Management Plan (SEEMP). Using this information, the ESI administrator calculates an ESI rating and identifies OGVs that perform better in reducing air emissions than required by the current IMO regulations.

The ESI program is intended to be used by ports to recognize and reward top performing clean ships when they participate in the ESI. The program is completely voluntary for operators and ports. Currently 12 ports in Europe have an ESI incentive program, with five additional European ports proposing incentive programs. The ESI registry currently contains 742 vessels. Five major container vessel operators calling at the Port have 92 vessels enrolled in ESI and, in 2011, 12 vessels registered in the ESI made 135 calls to the Port.

The Harbor Department has closely followed ESI program development. Through this involvement, program modifications important to the Port were implemented in January 2012. The modifications made to the ESI program are more action-forcing and better contribute to achieving CAAP goals and San Pedro Bay Wide Standards. It should be noted that the ESI rating calculation will change as international regulations change. Specifically, the calculation is anticipated to change in 2013 when SEEMPs are required on all vessels and in 2014 when CARB requires the use of 0.1 percent sulfur fuel. Therefore, the Port may in the future have to adjust the ESI qualifying score to incentivize new emission control activity that is not already required by law and/or regulation.

The Port will be the first Pacific Rim port to provide an ESI incentive. Immediately after Board approval, staff's goal is to outreach to other Pacific Rim ports to develop ESI

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incentive programs to recognize clean vessels that call at their ports. This will expand the visibility and benefits of joining ESI as an internationally recognized vessel rating system, and should contribute to higher shipping industry vessel registrations and provide an impetus to move their fleets toward a clean ship standard.

Tariff Amendment - The proposed addition of the ESI incentive program will be implemented through an amendment to Port Tariff No. 4 (Transmittal 1), adoption of a Temporary Order (Transmittal 2), adoption of a Permanent Order (Transmittal 3), and final approval by City Council of the Ordinance (Transmittal 4).

ESI Incentive Program - To qualify for an incentive payment, a vessel must be registered in the ESI system and have a valid ESI certificate and assigned score or rating. Vessel operators have an opportunity to receive an incentive payment from up to three categories, and incentives are paid on a quarterly basis.

1. ESI Score: A vessel with an ESI score of 25 to 29 points is eligible for an incentive grant of \$250 per call made between July 1, 2012 – December 31, 2012 or;

A vessel with an ESI score of 30 to 34 points is eligible for an incentive grant of \$750 per call; or

A vessel with an ESI score of 35 to 39 points is eligible for an incentive grant of \$1,000 per call; or

A vessel with an ESI score of 40 points or more is eligible for an incentive grant of \$1,250 per call.

2. Tier II or III Main Engine: A vessel with a Tier II or Tier III main engine qualifies for an incentive grant of \$750 or \$3,250 per call, respectively.
3. TAP Demonstration Participation: A vessel participating in a main engine emission reduction technology demonstration through the TAP qualifies for an incentive grant of \$750 per call during time of demonstration.

International ports currently participating in ESI have incentive programs with qualifying scores ranging from 20-30 points.

A clean ship with an ESI qualifying score of 25 points will operate with a Tier I or newer engine and use fuel cleaner than required by regulation. This incentive is limited to July 1, 2012 to December 31, 2012. The purpose of this incentive level is to quickly increase subscription to ESI; allow vessel operators to gain familiarity with the ESI system, and learn ESI reporting requirements.

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A clean ship with an ESI qualifying score of 30 points will operate with a Tier I or newer engine and use cleanest available fuel. A clean ship with an ESI qualifying score of 35 points will operate with a Tier I or newer engine, use cleanest available fuel and have a SEEMP or have shore power technology on-board. A clean ship with an ESI qualifying score of 40 points will operate with a Tier I or newer engine, use cleanest available fuel, have a SEEMP and have shore power technology on-board. The most significant action to achieve these higher scores is the purchase and use of 0.1 percent sulfur content distillate fuel. This will accelerate readiness for upcoming requirements under the CARB fuel regulation and ECA. All incentive opportunities will help achieve CAAP goals and San Pedro Bay Wide Standards.

Based on shipping line feedback and ESI participation analysis, Harbor Department staff believes that the program could achieve a 30 percent participation rate in FY 12/13. The goal is to achieve long-term program participation rates similar to the voluntary vessel speed reduction incentive program (VSRIP). Compliance for the VSRIP in 2011 was 92 percent to 20 nm and 70 percent to 40 nm. The ESI incentive program is expected to immediately reduce DPM by 16 tons, with future NOx reductions occurring as more new build vessels participate. This will provide accelerated, expanded and immediate emission reductions at distances between Point Fermin and the South Coast Air Quality Management District's (SCAQMD) overwater boundary, in advance of regulatory requirements and anticipated lease renewal mandates. Assuming a 30 percent participation rate, the estimated first year cost for the ESI incentive program is \$450,000.

Any additional program implementation details will be refined and finalized immediately after Board approval, and Harbor Department staff will conduct informational workshops for shipping lines in May-June 2012. The incentive program is expected to begin on July 1, 2012. The program may be modified at any time, if international, federal, or state regulations meet or exceed the incentive program standards.

The Harbor Department will pay incentives to Vessel Operators for ship calls only after the date they have both registered for ESI with IAPH/WPCI and enrolled with the Harbor Department. However, on a one-time basis only for the first quarter of the Program, the Harbor Department will pay qualifying incentives for ship calls from July 1, 2012 to September 30, 2012 provided the vessel operator is both registered for ESI and enrolled with the Harbor Department by September 30, 2012.

Cost Effectiveness - The most significant and immediate benefit from implementation of an ESI incentive program will be reductions in DPM from purchase and use of 0.1 percent sulfur content distillate fuel. At a 30 percent participation rate, ESI is expected to achieve 16 tons of DPM reductions per year. Whereas, \$450,000 represents only 0.1 percent of total Harbor Department shipping revenue, the anticipated annual emission reduction benefit from this program is approximately 6 percent of remaining DPM emissions Port-wide. This incentive program represents a valuable tool in moving the

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Harbor Department towards achievement of its CAAP goals and Bay wide Standards. Further, with an anticipated expenditure of \$450,000, ESI DPM cost effectiveness is \$1,423 per ton of DPM reduced. In comparison to the DPM cost effectiveness of other Port-funded projects, the Port Air Quality Mitigation Incentive Program produced DPM reductions of 21 tons per year with an average cost-effectiveness of \$5,020 per ton over the project life. The ESI incentive program cost-effectiveness compares quite favorably to generally accepted thresholds, including the SCAQMD Carl Moyer Program's current eligibility limit of \$16,400 per weighted ton of emissions reduced.

ESI Administration and Auditing - The program is currently administered by the Director of the WPCI, ESI participating ports and shipping lines. There will be a major effort in 2012 by Harbor Department staff, ESI incentive providers, and shipping lines to create administrative and auditing procedures to maintain data integrity and program transparency. These policies and procedures will ensure that Harbor Department funds are being used to achieve clean ship goals and achieve real emission reductions. The following auditing and quality control procedures will be progressively implemented throughout 2012:

- Website audits during registration in ESI - The website, <http://www.environmentalshipindex.org> automatically verifies that the vessel data is complete at time of registration.
- Website auditing after data submission to ESI - Vessels are automatically flagged in the website system for further data collection if values entered do not meet criteria.
- Administrative audits by ESI Administration - ESI Administration investigates flagged vessels to resolve any remaining issues.
- ESI Administration and Incentive Provider Auditing - Gives ESI Administration and Incentive Providers (ports) the ability to perform additional administrative or physical audits as desired.

ESI Incentive Program Implementation - The ESI incentive program is expected to begin on July 1, 2012. Additional program implementation details, including program logistics and guidance, will be refined and finalized immediately after Board approval. Harbor Department staff will conduct informational workshops for shipping lines in May-June 2012 to address the following topics and issues:

- ESI Incentive Program Overview
- How to Register with ESI
- ESI Administrative Requirements
- Port ESI Incentive Program

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ENVIRONMENTAL ASSESSMENT:

The proposed action is approval of an ESI incentive program to contribute to achieving accelerated implementation of OGV emission reductions under the San Pedro Bay Ports CAAP. As an administrative activity, the Director of Environmental Management has determined that the proposed action is exempt from the requirements of the California Environmental Quality Act (CEQA) in accordance with Article II, Section 2(f) of the Los Angeles City CEQA Guidelines.

FINANCIAL IMPACT:

This Board action approves an amendment to Port Tariff No. 4 setting forth the parameters upon which the Harbor Department will participate and provide incentives under the ESI incentive program. The Harbor Department will issue incentive payments to vessel operators on a quarterly basis in the following three categories:

1. ESI Score: A vessel with an ESI score of 25 to 29 points is eligible for an incentive grant of \$250 per call made between July 1, 2012 – December 31, 2012 or;

A vessel with an ESI score of 30 to 34 points is eligible for an incentive grant of \$750 per call; or

A vessel with an ESI score of 35 to 39 points is eligible for an incentive grant of \$1,000 per call; or

A vessel with an ESI score of 40 points or more is eligible for an incentive grant of \$1,250 per call.

2. Tier II or III Main Engine: A vessel with a Tier II or Tier III main engine qualifies for an incentive grant of \$750 or \$3,250 per call, respectively.
3. TAP Demonstration Participation: A vessel participating in a main engine emission reduction technology demonstration through the TAP qualifies for an incentive grant of \$750 per call during time of demonstration.

There is an initial target of 30 percent participation of qualified port calls in the upcoming fiscal year (FY) 2012/2013 at an estimated cost of \$450,000. The amount proposed to be budgeted for the ESI incentive program during FY 2012/13 is \$450,000 in Account 59965 (Incentives), Center 0330 (Environmental Management Division), Program 000.

If additional funds are required beyond FY 2012/13, a request will be made through the budget process.

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ECONOMIC BENEFITS:

This Board action will have no employment effect.

CITY ATTORNEY:

The Office of the City Attorney has reviewed and approved the Tariff, Temporary Order, Permanent Order and Ordinance as to form and legality.

TRANSMITTALS:

1. Port of Los Angeles Tariff No. 4, Section 20, Item 2060
2. Temporary Order
3. Permanent Order
4. Ordinance

FIS Approval: ef (initials)

CA Approval: mc (initials)



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BOARD MEETING: 05/03/2012

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