

Green Marine Environmental Program

2015



Performance
Indicators for
Terminals &
Shipyards

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1. GREENHOUSE GASES AND AIR POLLUTANTS

OBJECTIVE: To reduce greenhouse gas (GHG) and air pollutant emissions.

LEVEL 1
Monitoring of regulations
LEVEL 2
<p>2.1 Limit idling of vehicle engines.</p> <p>2.2 Promote sustainable transportation practices by employees. Examples: Incentives for public transport and carpooling, reorganization of business travel, installation of bicycle racks, etc.</p> <p>2.3 Implement measures to reduce congestion and idling during periods of heavy activity. <u>Note:</u> This relates to truck traffic.</p>
LEVEL 3
<p>3.1 Completion of an annual report on GHG emissions. <u>Note:</u> The report only refers to GHG emissions resulting directly from the company's activities. See Annex 1-A.</p>
LEVEL 4
<p>4.1 Adoption of an energy performance plan and a plan for reducing air pollutants, which defines reduction measures and establishes reduction targets. <u>Note:</u> Air pollutants refer to those that the company is required to report annually to Environment Canada as part of the National Pollutant Release Inventory (NPRI) or to U.S. EPA as part of the National Emissions Inventory (NEI). See Annex 1-B.</p>
LEVEL 5
<p>5.1 Continuous reduction of the company's direct GHG emissions (in intensity), achieved by implementing the measures described in the energy performance and air pollutant reduction plan. <u>Note:</u> Each company defines its own baselines for measuring continuous improvement.</p>

2. SPILL PREVENTION

OBJECTIVE: Reduce spills and leakages of dangerous chemicals into the environment.

LEVEL 1
Monitoring of regulations
LEVEL 2
<u>Has the company fulfilled at least 5 of the following criteria?</u>
2.1 Perform vehicle and machinery fuelling, lubrication and maintenance at a minimum distance of 30 m (100 ft) from the water and at a minimum distance of 15 m (50 ft) from a tributary (catch basin, ditch, etc.). If these requirements cannot be met, alternative pollution prevention measures must be taken (watertight lids, rubber rugs, retention pans, etc.).
2.2 When applicable, use retention pans under stationary devices and equipment that can potentially leak or which needs to be resupplied periodically (generating sets, compressors, etc.).
2.3 Implement inspection and maintenance procedures for all devices and equipment that could potentially leak (tanks, generating sets, compressors, etc.).
2.4 Regularly inspect near shore water and property to identify and immediately stop leaks from any source.
2.5 Should there be any doubt about the environmental quality of runoff water collected in an observation shaft or excavation pit (color, odor), such water is to be intercepted for sampling purposes or proper treatment.
2.6 Have available at least one emergency spill kit on site for dealing with minor spills.
2.7 Train employees to respond to small spills.
LEVEL 3
3.1 Implementation of all applicable best practices of level 2.
3.2 Adoption of a Water and Land Pollution Prevention Plan. <u>Note:</u> A model is provided at Annex 2-A.
LEVEL 4
<u>For the majority of the company's participating terminals or locations:</u>
4.1 Implement a documented Preventive Maintenance Program for vehicles and equipment which might produce spills or discharges into the environment (fuel, lubricants, etc.). <u>Note:</u> See Annex 2-B
<u>In one or more of the company's participating terminals or locations:</u>
4.2 Storm water is collected and treated by the company via an appropriate storm water treatment device, process or procedure.
4.3 Inspect and maintain installed or used devices, process or procedures on a regular basis.
4.4 Sample and analyze treated storm water routinely to ensure proper functioning of treatment equipment and infrastructure.
4.5 When applicable, use low toxicity/biodegradable oil for fixed hydraulic equipment located near the shore. <u>Note:</u> Refer to the U.S. Environmental Protection Agency (EPA)'s definition of Environmentally Acceptable Lubricants: biodegradable, minimally toxic and not bio-accumulative (p. 143 of Appendix A of the Vessel General Permit (VGP) for discharges incidental to the normal operation of vessels).
LEVEL 5
<u>In the majority of company's participating terminals or locations:</u>
5.1 Storm water is collected and treated by the company via an appropriate storm water treatment device, process or procedure.
5.2 Inspect and maintain installed or used devices, process or procedures on a regular basis.
5.3 Sample and analyze treated storm water routinely to ensure proper functioning of treatment equipment and infrastructure.
5.4 When applicable, use low toxicity/biodegradable oil for fixed hydraulic equipment located near the shore. <u>Note:</u> Refer to the U.S. Environmental Protection Agency (EPA)'s definition of Environmentally Acceptable Lubricants: biodegradable, minimally toxic and not bio-accumulative (p. 143 of Appendix A of the Vessel General Permit (VGP) for discharges incidental to the normal operation of vessels).
5.5 Install secondary containment for all fixed and portable outdoor above ground storage tanks and containers that are located within a distance of 30 m (100 ft) from the water and 15 m (50 ft) from any ditch, sewer system, underground stream, etc.. This requirement applies to all WHMIS controlled products. <u>Note:</u> Secondary containment means a barrier that prevents a discharge from a storage tank or container from escaping into the environment before a cleanup occurs. The secondary containment system must be capable of holding 110% of the volume of the largest tank or container in the area and may include: <ul style="list-style-type: none"> ▪ Impervious dikes, berms or retaining walls; ▪ Curbing; ▪ Culverts, gutters or other drainage system; ▪ Weirs, booms and barriers; ▪ Spill diversion or retention ponds; ▪ Double-walled tanks.

3. DRY BULK HANDLING AND STORAGE

OBJECTIVE: Reduce cargo residue discharges.

Note: Only applicable to dry bulk terminals.

LEVEL 1
Monitoring of regulations
LEVEL 2
<p>2.1 Recover cargo residue on the ground by sweeping.</p> <p>2.2 Ensure that cargo residue sweepings are disposed of in a proper way.</p> <p>2.3 Prevent water contamination while loading and unloading operations (example: Use canvas between ships and docks when unloading).</p> <p>2.4 Keep dry bulk piles covered as much as possible when they are likely to blow away by the wind or to leach out on the ground.</p> <p>2.5 If practical, spraying a light mist for dust control during handling operations.</p> <p>2.6 When applicable, fit storm drains with screens, baskets, geo-textiles or other devices in order to filter suspended solids found in storm water runoff, and ensure that such devices are cleaned on a regular basis.</p>
LEVEL 3
<p>3.1 Adoption of a Water and Land Pollution Prevention Plan. <u>Note:</u> A model is provided at Annex 2-A.</p>
LEVEL 4
<p><u>In the majority of the company's participating terminals:</u></p> <p>4.1 Implement a documented Preventive Maintenance Program targeting dry cargo handling equipment. <u>Note:</u> See Annex 2-B.</p> <p><u>In one or more of the company's participating terminals:</u></p> <p>4.2 Adapt loading and unloading operations in cases of abnormal dust emissions due to wind. <u>Note:</u> The company must have in place a procedure or a policy that defines, for each type of cargo, the adverse weather conditions that affect loading and unloading operations, and preventive measures to be taken. Procedures must also include a record of incidents and must be communicated to and systematically applied by concerned staff.</p> <p>4.3 Systematically take the "Best Management Practices" (e.g. systematically covering piles, use of sealing products or chemical stabilizers) to mitigate potential release of particulates offsite by wind and rain.</p>
LEVEL 5
<p><u>In the majority of the company's participating terminals:</u></p> <p>5.1 Adapt loading and unloading operations in cases of abnormal dust emissions due to wind. <u>Note:</u> The company must have in place a procedure or a policy that defines, for each type of cargo, the adverse weather conditions that affect loading and unloading operations, and preventive measures to be taken. Procedures must also include a record of incidents and must be communicated to and systematically applied by concerned staff.</p> <p>5.2 Systematically take the "Best Management Practices" (e.g. systematically covering piles, use of sealing products or chemical stabilizers) to mitigate potential release of particulate offsite by wind and rain.</p> <p>AND one of the following, if applicable:</p> <p>5.3 Use enclosed conveyors or chutes and telescoping arm loaders or other similar equipment to reduce spills and dust.</p> <p>5.4 Use dust suppression, baghouse, screw conveyors, vacuum collecting equipment or other similar equipment in the handling of fine, granular or powdery material.</p> <p>5.5 Install windscreens to protect piles of dry bulk from wind.</p>

4. COMMUNITY IMPACTS

OBJECTIVE: Reduce the amount of noise, dust, odor and light to which people residing close to port facilities are exposed.

Note: The activities covered by the community impacts indicator are limited to those related to commercial shipping and cruise.

LEVEL 1
Monitoring of regulations
LEVEL 2
<p>Implementation of the majority of applicable criteria:</p> <p><u>External communications:</u></p> <p>2.1 Make available/post a telephone number of, or redirect calls to, the authority in charge of receiving complaints related to port activities.</p> <p>2.2 Once a complaint has been made to the company, move swiftly in dispatching a responsible individual to the site and, to the extent possible, ensuring that corrective measures are taken.</p> <p><u>Noise:</u></p> <p>2.3 Impose speed limits on vehicles in sensitive zones.</p> <p>2.4 Use quieter warning signals or equipment without compromising safety.</p> <p>2.5 Use equipment to reduce the noise emanating from rail operations at the port.</p> <p>2.6 Impose limits on night time operations, as needed.</p> <p>2.7 Limit idling of vehicle and equipment engines.</p> <p>2.8 Have a documented process (e.g. purchase policy) for selecting less noisy equipment when buying new equipment.</p> <p><u>Dust:</u></p> <p>2.9 Adopt measures to hold back dust on roads (Example: Watering of roads, paving, speed limits for vehicles, maintenance of pavement, etc.).</p> <p>2.10 Apply measures to improve the management of bulk cargo storage (Examples: Covering cargo that is stored in piles, reducing the height of such piles, moving piles to areas that are less exposed to wind, etc.).</p> <p><u>Housekeeping:</u></p> <p>2.11 Implement cleaning procedures for wharfs, driveways and loading and unloading areas.</p> <p>2.12 Place marked trash and recycling containers at locations convenient to employees, visitors and truck operators.</p> <p>2.13 Cover trash collection areas and containers to avoid dispersion by wind and storm water.</p> <p><u>Traffic/congestion:</u></p> <p>2.14 Have a procedure on bus, truck or railway traffic management to avoid local congestion (e.g. signboard, traffic coordinator or checker).</p> <p><u>Light:</u></p> <p>2.15 Direct lights so they only illuminate the necessary zone.</p> <p>2.16 Switch off bothersome lighting at a specific time if there are no operations underway.</p>
LEVEL 3
<p>3.1 Adoption of a plan for managing community issues, which formally incorporates all applicable the best practices, set out in level 2. Such a plan is to include a procedure for handling complaints.</p> <p>3.2 Periodic sampling (at least once in the last two years) of noise and / or air emission (dust and/or odors) in the problem areas.</p> <p>3.3 Evaluate environmental and social aspects of new projects (activities or operations) that are not subject to an environmental assessment under existing regulation.</p> <p><u>Note:</u> Note: See Annex 3-B.</p>

LEVEL 4

Implementation of the majority of applicable criteria:

Noise:

4.1 Have in place a procedure to verify, on a regular basis, sound levels of operations to verify compliance.

Note: The company must specify and justify the frequency of such measures.

4.2 Create screens against sound with the help of sound-reducing trees or walls if appropriate.

4.3 Install silencer (muffler), catalysts, timer or other device to reduce noise from noisy equipment or cover with sound insulating material.

Dust:

4.4 Implement mitigation measures (e.g. canvas, tarpaulins, curtains or other equivalent control barriers) during spray painting and blasting operations to prevent dispersal of dust and aerosol particles by the wind.

4.5 Collect and confine spent abrasive and debris (after blasting to dock-bottom/yard grounds) to avoid dispersion by wind and storm water (e.g. cover piles or use covered containers).

Light pollution:

4.6 Install fixtures that optimize lighting and reduce light pollution when replacing fixtures or during new projects.

4.7 Evaluate existing lighting plans and take effective measures to optimize lighting and reduce impacts.

Nuisance mitigation:

4.8 Installation of green corridors (e.g. dune system), vegetated or recreational areas (e.g. tree alley, parks) between operating site and residential area if appropriate.

4.9 Develop and implement a nuisance mitigation plan during construction, redevelopment and dredging operations.

Note: These measures are the follow-up of criterion 3.3.

Community relations:

4.10 Active involvement in local community organizations (e.g. watershed committee, local NGOs, etc.).

Note: Payment of a membership to a local organization is not sufficient to fulfill this requirement. The company must prove that it is actively involved (e.g. be a Board member, participate in committees on a regular basis, etc.).

4.11 Implement permanent communication channels (e.g. website, distribution of pamphlets, etc.) to inform the community, on a regular basis, on major projects and construction work, their impacts and mitigation measures taken.

4.12 Have a documented and communicated procedure to consult the community (e.g. public information session) before implementing new projects that can have an impact on the environment and/or the community.

Note: If new projects have been implemented, the participant must prove that the procedure has been followed.

LEVEL 5

5.1 Implementation of all applicable criteria listed in level 4.

Canadian liquid bulk terminals only:

5.3 Implement a system for collecting vapors arising from tanker loading operations.

5. ENVIRONMENTAL LEADERSHIP

OBJECTIVE: Encourage and recognize the implementation of original and exemplary environmental initiatives by private marine companies.

LEVEL 1
1.1 The company has reached level 2 for at least one other environmental issue of the program.
LEVEL 2
2.1 The company has reached level 2 for at least 2 other environmental issues of the program.
OR
2.2 The company has a written environmental policy that has been publicly communicated.
LEVEL 3
3.1 At least 2 of the company's eligible terminals or operating sites (stevedoring companies) or shipyards are participants of Green Marine.
OR
3.2 The company has implemented an external system for verifying the environmental compliance of operations. <u>Note:</u> This verification process has to be performed at least every 5 years or at least every 3 years in case of risky activities identified by the internal authorities in charge.
3.3 Implement waste management procedures that follow the waste management hierarchy (reduce, reuse, recycle, recover) in all of the company's administrative offices).
LEVEL 4
4.1 50 % of the company's eligible terminals, operating sites (stevedoring companies) or shipyards are participants of Green Marine.
4.2 The company has attained an average that is equivalent to level 3 with respect to the environmental program's other issues.
AND fulfill at least 2 of the following criteria:
4.3 Completion of a detailed inventory of air pollutants emitted by the company's activities.
4.4 The company has implemented an environmental management system (EMS). Example: ISO 14000. <u>Note:</u> At level 4, certification is not mandatory if the company can demonstrate that all the elements of an environmental management system are in place. At level 5, certification is mandatory.
4.5 The company publishes an annual report providing details of its environmental performance. <u>Note:</u> The report must follow a recognized standard, such as the Global Reporting Initiative's Reporting Guidelines.
4.6 The company has a replacement policy for converting its fleet of road vehicles for more environmentally friendly technologies (high-renewable-content fuels, hybrids, electrical, etc.) and has started to convert its fleet. <u>Note:</u> High-renewable-content fuels must contain more than 5% renewable content.
4.7 The company has introduced new technologies designed to reduce the environmental footprint of its activities (shore power programs, development of renewable energy, etc.).
4.8 Any other comparable measures accepted by the Green Marine Secretariat. <u>Note:</u> See Annex 4-A.
LEVEL 5
5.1 All of the company's eligible terminals, operating sites (stevedoring companies) or shipyards are participants of Green Marine.
5.2 The company fulfills at least 4 of the criteria listed in level 4 (4.3 -4.8).
5.3 The company has attained an average that is equivalent to level 4 with respect to the environmental program's other issues.

6. WASTE MANAGEMENT – OPTIONAL FOR 2015

OBJECTIVE: Reduce waste arising from administrative activities and site operations, and increase recycling.

LEVEL 1
Monitoring of regulations
LEVEL 2
<p><u>Has the participant fulfilled at least the majority (50%+1) of the following applicable criteria?</u></p> <p>2.1. Equip offices, work spaces and facilities with recycling bins, including for used batteries, cartridges and fluorescent light bulbs and make sure they are strategically located and appropriately labeled.</p> <p>2.2 Install clear signage for waste disposal on port or terminal property.</p> <p>2.3. Provide training and/or educate staff on established garbage management procedures and hierarchy (at source reduction, reuse, recycling, recovery, disposal), including on procedures for handling and disposing of hazardous waste.</p> <p>2.4. Encourage the use of reusable, biodegradable and/or recyclable supplies (e.g. reusable dishes, etc.).</p> <p>2.5. Encourage staff to adopt sustainable paper use practices (e.g. reduce overall printing and copy paper consumption, double-sided printing, reuse and recycle paper, etc.)</p> <p>2.6. Promote and encourage tenants, users, contractors and/or clients to minimize waste and to recycle.</p> <p>2.7. Reuse and/or recycle as much as possible dunnage, lining and packaging material, where compliant with federal and/or state wood packaging import regulations.</p> <p><u>Dry bulk terminals (2.8, 2.8, 2.10):</u></p> <p>2.8. Adopt procedures to minimize the amount of cargo residues left on board the ships.</p> <p>2.9. Facilitate the discharge of solid bulk cargo residues ashore, including hold sweepings.</p> <p>2.10. Recover as much as possible off specification products (i.e. products captured in storm water sumps and effluent treatment works) or reintroduce them into the handling process.</p> <p><u>Note:</u> Not applicable in terminals that handle multiple dry bulk products because of cross contamination risks.</p>
LEVEL 3
<p>3.1. Implement all applicable best practices listed at level 2.</p> <p>3.2. Produce an annual inventory of all waste being generated during the participant's direct activities (administrative and/or site operations).</p> <p>OR</p> <p>3.3. Conduct a waste audit every three years to identify the types and amount of waste being generated during the participant's direct activities (administrative and/or site operations). <u>Note:</u> The inventory or audit does not include waste generated from demolition or construction projects. <i>Guidelines under development.</i></p> <p>3.4. Adopt an environmentally preferable purchasing policy that encourages sustainable purchasing practices (e.g. products that produce less waste (less packaging, reusable/ recyclable/compostable products, products with postconsumer recycled content, etc.).</p>
LEVEL 4
<p>4.1. Conduct a waste audit every three years to identify the types and amount of waste being generated during the participant's direct activities (administrative and/or site operations). <u>Note:</u> The waste audit does not include waste generated from demolition or construction projects. <i>Guidelines under development</i></p> <p>4.2. Based on the results from the waste audit, adopt and implement a waste management and reduction plan that describes the participant's waste management practices and procedures, including all applicable best practices of levels 2 and 3. The plan must also define measurable waste reduction, recycling and/or diversion rates and identify practices and strategies to achieve these rates. <u>Note:</u> Each participant defines its own "normalizer" to take into account fluctuations in port activities (e.g. per capita, per ton, per vessel, etc.). <i>Definition of specific requirements under development</i></p>

4.3. Adopt and implement formal procedures for minimizing, reusing, recycling and/or properly disposing waste generated during construction, excavation and demolition work (e.g. cement, concrete, bricks, gypsum, wool, asphalt, wood, steel and other metals, etc.). These procedures must be included in all construction, demolition and excavation projects.

LEVEL 5

5.1. Demonstrate continuous achievement of rates established in the waste management and reduction plan.