

Maryland Department of Transportation
Maryland Port Administration

Safety, Environment, and Risk Management Sustainability Strategy 2020 - 2023



October 1, 2019



Safety, Environment, and Risk Management Sustainability Strategy 2020

INTRODUCTION

Safety, Environment and Risk Management (SERM) is an office within the Maryland Department of Transportation's Maryland Port Administration (MDOT MPA) that is responsible for compliance related to the landside movement of cargo at the 6 public terminals owned by the State of Maryland and leased to the private sector. SERM's responsibilities include ensuring compliance with all State and federal environmental and safety requirements, going beyond compliance where practicable, and developing strong relationships with citizens, faith-based organizations, and special interest groups who may be impacted by port activities. In fulfilling its responsibilities, SERM is fully committed to implementing MDOT MPA's fundamental principle that stewardship, environmental and economic sustainability, and protecting its employees and public health are essential components of its mission.



To ensure the best use of SERM's resources in supporting MDOT MPA's priorities, SERM recently reviewed successes and lessons learned to prepare this Sustainability Strategy for 2020. The Strategy describes the actions that SERM will take over the next three years in its four primary focus areas: Safety and Risk Management, Air and Energy Management, Water Quality, and Stakeholder Engagement. Following this strategy will ensure that SERM continues to evaluate and, where appropriate, adopt cutting edge technologies, innovative approaches, and forward-thinking policies while supporting MDOT MPA's operations and continued growth. The strategy will help communicate and coordinate SERM's efforts with MDOT MPA Departments, tenants, and external stakeholders including community members.

As the Port of Baltimore continues to serve as an economic engine for the citizens of Maryland, this strategy will keep MDOT MPA well-positioned to remain a leader in SERM's four focus areas.



Safety and Risk Management



Air and Energy Management



Water Quality Management



Stakeholder Engagement

SAFETY AND RISK MANAGEMENT

Goal 1: Provide a Safe Workplace and Protect MDOT MPA's Physical Assets.

SERM is committed to providing a safe workplace for employees and to properly respond to emergencies in ways that protect the health and welfare of employees and prevent damage to physical assets. SERM has adopted the principles of an effective safety and health management program including ensuring strong and active leadership, worker involvement, and continual assessment and improvement.



SERM has taken several steps to improve safety and health on the terminals including actions that will protect personnel and equipment from the release of energy by an electric arc. SERM has also fostered a strong relationship with the maintenance, crane, and fleet trades to ensure that safety and health is the top priority. A robust program was created that will identify the root causes of any near misses and accidents that may occur with personnel, equipment, and property. This will ensure that MDOT MPA acts proactively to avoid future accidents and near misses.



Received **5 consecutive years** of Outstanding US Coast Guard fire and life safety reviews



Hosted over **30 education events** for staff on emerging health and safety topics last year



Received **3 health and safety awards** in the past seven years



Trained **100% of MPA's fleet and maintenance staff** in cutting edge arc flash and silica safety measures

SERM will strengthen its strategies for providing a safe workplace, and protect physical assets by:

1. Implementing a behavioral based safety observation program.
2. Identifying and implementing practicum safety training and drills for MDOT MPA terminal employees.
3. Conducting accident investigations for all MDOT MPA near misses and accidents and performing trend analyses to identify ways to avoid future incidents.
4. Identifying any new safety management requirements and conducting the appropriate training for MDOT MPA supervisors.
5. Evaluating emergency notification systems at marine terminals.
6. Conducting physical asset inspections and evaluations of all MDOT MPA buildings and properties, for safety and health, life safety and loss control.
7. Establishing skill development requirements needed for MDOT MPA fleet mechanics in preparation for future automation of vehicles and equipment (e.g., predictive maintenance, new cars/hybrids, other repairs, etc.).
8. Ensuring that MDOT MPA employees who work at the World Trade Center receive training on any future safety requirements and environmental issues.

AIR AND ENERGY MANAGEMENT

Goal 2: Identify and Implement Technologies and Practices that Reduce Greenhouse Gas and Diesel Emissions to “Near Zero.”

SERM’s efforts have helped reduce the amount of air emissions from Port operations even though the Port is handling increasing amounts of cargo each year. These efforts have been significantly aided by SERM’s participation with MDE and MDOT in a unique workgroup formed to develop and implement projects that reduce air pollution and increase energy efficiency.



SERM has obtained grants from EPA and MDE that helped to replace older drayage trucks with newer clean diesel models, upgrade cargo handling equipment, and install idle reduction technology on locomotives. SERM also partnered with a federal agency on a project that uses algae to produce biogas as feedstock for a fuel cell. A rooftop solar system was installed at the South Locust Point Cruise Terminal, lighting fixtures have been upgraded, and other greenhouse gas reduction actions have been identified and implemented with SERM’s assistance.



Helped truckers **replace 200 older Port dray trucks** with newer models to reduce diesel emissions



Repowered or **replaced 110 pieces of Port cargo handling equipment** since 2008



Reduced greenhouse gas emissions by over **3,800 metric tons** through HVAC and lighting upgrades



Decreased air emissions by 19% while **cargo tons increased by 10%** between 2012 and 2016

SERM, working with MDOT MPA's tenants, will identify and where appropriate, implement technologies and practices that significantly reduce diesel and greenhouse gas emissions by:

1. Identifying ways to reduce air emissions by conducting an air emission inventory and a Greenhouse Gas Emission inventory.
2. Evaluating emerging and innovative "zero" and "near zero" emission technologies, to determine applicability for Port operations.
3. Reducing energy consumption through electrification and using alternative fuels and evaluating the potential installation and use of micro/macro grids for terminals.
4. Providing the logistical support for future cleaner burning vehicle fleets.
5. Identifying potential carbon emission mitigation opportunities by accounting for the ancillary benefits from MDOT MPA's wetland restoration and reforestation, or other mitigation projects.

WATER QUALITY MANAGEMENT

Goal 3: Implement Cost-Effective Technologies and Practices that Protect and Improve Water Quality.

SERM prides itself on being in compliance with all regulatory requirements relating to water quality and goes beyond compliance whenever feasible. SERM has taken the lead in being proactive in anticipating and identifying ways to meet current and future water-related regulations by using traditional methods, designing and implementing cutting edge technologies and practices, and partnering with non-governmental organizations on projects that improve water quality.



Innovative new technologies spearheaded by SERM include the algal flow-way on the Dundalk Marine Terminal that grows algae to remove nutrients and sediment from the Patapsco River and a lightweight green roof that reduces stormwater runoff from an MDOT MPA building that could not support a traditional green roof.



Restored over **2,500 feet** of eroded streambanks and shorelines at the Baltimore Zoo and Arlington Echo Education Center



Treated the equivalent of more than **122 acres** of stormwater runoff from marine terminals



Removed over **300,000 pounds** of sediment from storm drains and inlets at marine terminals



Planted over **1,000 trees** in Baltimore neighborhoods

SERM will work to identify and implement technologies and practices that restore the watershed and protect and improve water quality by:

1. Meeting the 2025 water quality and nutrient reduction goals for Baltimore Harbor and the Chesapeake Bay through cost-effective stormwater management strategies.
2. Evaluating the effectiveness and economic feasibility of the algal flow-way technology and if cost-effective, designing, obtaining permits and beginning construction of a ½ acre algal flow-way at Hawkins Point.
3. Expanding the tree planting program with SERM's existing partners and others identified through SERM's community engagement activities.
4. Identifying and implementing mitigation projects for MPA's stormwater and water quality bank, so the bank will maintain a balance of at least 10 acres.
5. Reducing the amount of sediment and litter going into the Bay from MDOT MPA's terminals by: increasing street sweeping and litter pickup on the terminals and recycling for paper, cardboard, bottles, and cans by 5% annually.
6. Making it easier for the public to report water quality concerns and/or complaints.
7. Developing environmental educational materials for tenants and other port users for distribution through newsletters, websites and other methods.

STAKEHOLDER ENGAGEMENT

Goal 4: Strengthen MDOT MPA's relationships with stakeholders.

MDOT MPA has long recognized its responsibility to those impacted by maritime activities and has received accolades nationally for its "Good Neighbor" practices. Over the past 4 years, SERM has expanded MDOT MPA's stakeholder engagement activities beyond the communities along the water by reaching out to neighborhoods and interest groups in the Baltimore region.



As a result of SERM's efforts, more than 40 new community and religious associations now have a greater awareness of the Port of Baltimore's role in their lives, and MDOT MPA has gained a better understanding of the challenges facing the region's citizens, especially those living in underserved communities. SERM has increased public understanding and appreciation of the Port and its benefits through tours, presentations, and other stakeholder engagement activities. Strong partnerships have been created with numerous interest groups including the Environmental Defense Fund, Blue Water Baltimore, Maryland Environmental Health Network, the Greater Baybrook Alliance, Safe Alternative for Education and Bon Secours Community Works.



Attended **10 public events** and met with **25 community groups** throughout Baltimore in the past 2 years



Hosted **80 stakeholders** for guided Port Tours of the marine terminals last year



Introduced stakeholders to the Port of Baltimore through **12 "Port 101" presentations** by MDOT MPA



Participated in multiple community cleanups and other volunteer events last year with over **60 Port staff members** in attendance

SERM will continue to strengthen relationships with its stakeholders by:

1. Maintaining regular contact with SERM's existing stakeholders, and developing relationships with additional stakeholders by providing updated Port materials at their events and meetings.
2. Partnering with stakeholders on community greening projects, clean ups, and other initiatives that will help improve quality of life while advancing MDOT MPA's mission.
3. Offering tours of terminals and other port facilities, and holding events designed to increase public awareness and promote information sharing with stakeholders.
4. Engaging with stakeholders who may be impacted by MDOT MPA's future plans, initiatives, and projects, as early as possible.
5. Continuing to utilize social media to convey and promote SERM's sustainability initiatives.
6. Providing information about job opportunities at the Port and identifying skills needed for future jobs.

For more information of MDOT MPA's Environmental Initiatives, please visit:

The MDOT MPA website at mpa.maryland.gov/greenport

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