Strategic Objective 5.2—Mitigate Environmental Impacts

Avoid and mitigate transportation-related impacts to climate, ecosystems, and communities by helping partners avoid risk, improve transportation and disposal of hazardous materials, make informed project planning decisions through an analysis of acceptable alternatives, and balance the need to obtain sound environmental outcomes with demands to accelerate project delivery.

PERFORMANCE OVERVIEW

DOT is committed to reducing the impact of the Nation’s transportation system on the environment, including within its own operations and facilities. This includes potential impacts during the transportation and disposal of hazardous materials, construction and operation of the transportation system.

The Nation has a vast network of pipelines and thousands of commercial vehicles on roadways and rail that carry hazardous materials each day. The Department partners with State and local governments and the private sector to improve operating practices and identify potential risks.

DOT also promotes good environmental impact assessment in the planning phase of transportation infrastructure investments. Environmental impacts and sustainability issues must be considered in all phases of transportation system development including project development, implementation, and ongoing operation and maintenance.

DOT programs encourage managers of transportation systems and infrastructure investments to address the secondary effects of construction, including land use and environmental impacts and storm water runoff. Transportation officials must balance environmental needs against the demand for faster project delivery time. DOT works with its Federal partners to improve internal project delivery processes and identify opportunities for enhanced interagency harmonization, through continued DOT initiatives, implementing Executive Order (EO) 13604 to streamline infrastructure projects, and other related efforts.

**DOT Operating Administrations (OAs):** Federal Highway Administration (FHWA), Federal Aviation Administration (FAA), Federal Transit Administration (FTA), Federal Railroad Administration (FRA), Maritime Administration (MARAD), Pipeline and Hazardous Materials Safety Administration (PHMSA), and Office of the Secretary (OST).
**Overview**

Mitigating noise directly impacts our ability to increase capacity while sustaining our future. While airport expansion projects are the best way to increase capacity, communities and local government are reluctant to build them if they impose increased aircraft noise exposure. In addition, noise can be a concern for the implementation of certain NextGen initiatives, like performance based navigation (PBN). These NextGen initiatives are necessary to continue to deliver on the safest, most efficient system and noise mitigation will continue to be an important element.

**PERFORMANCE REPORT**

<table>
<thead>
<tr>
<th>Goal Description</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015 Target</th>
<th>2015 Actual</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. population exposed to significant aircraft noise around airports</td>
<td>292,000</td>
<td>318,000</td>
<td>315,000</td>
<td>319,000</td>
<td>321,000</td>
<td>342,000</td>
<td>340,000</td>
<td>Met</td>
</tr>
</tbody>
</table>

**Progress Update**

In FY 2015, with a result of 340,000 people exposed, FAA achieved the noise exposure goal of keeping the number of people exposed to aircraft noise below 342,000 people exposed. Although FAA consistently achieved this goal in the recent past, the number of people exposed to noise fluctuates every year. Factors that have contributed to increases include variations in the number of flights at individual airports, the fleet mix at those airports, and the flight paths flown. The number of people exposed to noise at certain airports can be affected by small changes in the shape of a noise contour and changes in population around airports. A noise contour is a line on a map that connects points of equal noise exposure on the surface. A small change in a contour shape can potentially cause a large change in the population count due to the uneven distribution of the population around airports property.

The metric tracks the residential population exposed to significant aircraft noise around U.S. airports. Significant aircraft noise is defined as aircraft noise at or above Day-Night Average Sound Level (DNL) 65 decibels (dB). In 1981, FAA issued 14 CFR Part 150, Airports Noise Compatibility Planning, and as part of that regulation, formally adopted DNL. DNL, symbolized as Ldn, is the 24-hour average sound level, in dB, obtained from the accumulation of all events with the addition of 10 dB to sound levels in the night from 10 p.m. to 7 a.m. The weighting of the nighttime events accounts for the increased interfering effects of noise during the night when ambient levels are lower and people are trying to sleep.

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1 FAA published a table of land uses that are compatible or incompatible with various levels of airport noise exposure, expressed in DNL in 14 CFR Part 150. This table established that levels below DNL 65 dB are considered compatible for all indicated land uses and related structures. For more information on airport noise, visit: [http://www.faa.gov/airports/environmental/airport_noise/](http://www.faa.gov/airports/environmental/airport_noise/).
The FAA has made great strides in reducing noise impacts on the public, primarily through advancements in aircraft technology. Our CLEEN program provides incentives for manufacturers to develop lower-noise aircraft through technologies such as Boeing’s Ceramic Matrix Composite (CMC) acoustic nozzle at the engine exhaust, and Pratt & Whitney’s ultra-high bypass ratio geared turbofan (GTF) engine and associated advanced technologies.

### PERFORMANCE PLAN

<table>
<thead>
<tr>
<th>Goal</th>
<th>Indicator</th>
<th>FY 2016 Target</th>
<th>FY 2017 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the number of people exposed to significant noise around airports to less than 300,000 people in FY 2018.</td>
<td>Number of people exposed to day-night average sound levels of 65 dB or greater around US in the previous calendar year.</td>
<td>328,000</td>
<td>315,000</td>
</tr>
</tbody>
</table>

**Key Strategies**

The number of people exposed to significant noise levels was reduced by over 95 percent between 1975 and 2014. This is due primarily to the legislatively mandated transition of airplane fleets to newer generation aircraft that produce less noise. Most of the gains from quieter aircraft were achieved by FY 2000. The reduction in noise exposure since 2005 has been driven by air carrier fleet and operational changes as carriers continue to retire older, less fuel-efficient aircraft that tend to produce more noise. In addition, passenger demand fell due to a deepening recession and growing unemployment. However, air carrier traffic is slowly starting to recover to pre-2005 levels and consequently, the actual number of residents exposed to significant noise increased in 2015, but remained below the current target. As air traffic continues to recover and grow over time, noise exposure is likely to continue to increase.

The target will continue to be reassessed as FAA takes a more integrated approach to environmental mitigation and regulation. FAA will assess the relative costs and benefits of addressing impacts associated with noise, air quality, and greenhouse gas emissions and the tradeoffs in achieving reductions in each. When achieving noise reduction, FAA is using a balanced approach that takes into account reductions at the source of noise, improved operational procedures, and land-use compatibility. Source noise reduction can be achieved through the maturation and commercialization of aircraft that meet the most stringent noise certification standards. As existing aircraft are retired and replaced with newer quieter aircraft, the number of people exposed is expected to decrease. Implementation of improved operational procedures developed under the Next Generation Air Transportation System (NextGen) may also contribute to reducing the noise of aircraft operating over communities around airports. FAA will continue to conduct research and development activities related to technology and operations as well as enhancing our scientific and technical basis for understanding the impacts of aircraft noise on the exposed population.

This metric is calculated using the Aviation Environmental Design Tool (AEDT). The computational core of AEDT is based from FAA’s Integrated Noise Model (INM) with
methodological improvements. FAA replaced INM with AEDT in May 2015 for modeling purposes. INM was the most widely used computer program for the calculation of aircraft noise around airports. Major assumptions on local traffic utilization come from obtaining datasets that were developed for an airport, from the Performance Data Analysis and Reporting System (PDARS), or from the Enhanced Traffic Management System, or ETMS. The AEDT model calculates individual DNL contours for the top 101 U.S. airports using detailed flight tracks, runway use and track utilization. The contours are superimposed on year 2010 census population densities projected to the current year being computed to calculate the number of people within the DNL 65 dB contour at each airport. For smaller airports, AEDT uses less detailed information consisting of flight tracks that extend straight in and straight out from the runway ends. The contours areas are then used to calculate people exposed using 2010 Census population densities projected to the current year being computed. The projection is used to account for population growth between 2010 and the computed year. The individual airport exposure data are then summed to the national level. Finally, the number of people relocated through the Airport Improvement Program is subtracted from the total number of people exposed.

Partners include government agencies worldwide and the aviation industry through the International Civil Aviation Organization (ICAO), who periodically update noise standards and methodologies. FAA has also partnered with the National Aeronautics and Space Administration, or NASA, in the development of advanced noise reduction technologies and FAA has the Continuous Lower Energy, Emissions and Noise (CLEEN) program to promote maturation of those technologies and their acceleration into the fleet to help achieve NextGen goals to increase airspace system capacity while reducing significant community noise and air quality emissions impacts in absolute terms and limiting or reducing aviation greenhouse gas emissions impacts on the global climate.

FAA is currently conducting research to understand the impact of aviation noise on communities around airports. Specifically, one project’s goal is to evaluate the annoyance reaction to aircraft noise in the current airport operating environment. When completed, this research will be used to evaluate the agency’s measure and goal with respect to aviation noise.

The primary external factors affecting performance are market forces that drive changes in commercial aircraft fleets and operations. Other external factors include providing FAA the authority and funding to accelerate the implementation of new aircraft emissions and noise technology, and providing funding to FAA’s Airport Improvement Program. These programs help foster the type of fleet and performance change required to meet either our current target or historic experience.

**Next Steps**

FAA will continue to support research under the CLEEN II program, initiated in 2015. In addition, research on operational improvements that have the potential to reduce noise will continue to be funded. Longer term, FAA is in the process of promulgating the new international noise standard that was adopted by ICAO as recommended by its Committee on Aviation Environmental Protection, or CAEP, in February 2013, which will help influence the

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2 For years before 2012, year 2000 Census data population density projected to the current year was used to calculate the number of people within the DNL 65 dB contour at each airport.
manufacture of quieter aircraft. Though it will take some time for these aircraft to be incorporated into the fleet, a new noise standard leads to the development of quieter aircraft. FAA continues to work to refine the goal through additional research to understand people’s reaction to aircraft noise. In addition, refinements to both the model and modeling inputs will be conducted.

**Goal Leader**

Michael P. Huerta, Administrator, Federal Aviation Administration
Rich Swayze, Assistant Administrator for Policy, International Affairs and Environment, Federal Aviation Administration

**HAZARDOUS LIQUID PIPELINE SPILLS (PHMSA)**

**Overview**

Hazardous liquid pipelines supply most of the energy for transportation, as well as crude oil that is used in many other ways—through a nationwide network of nearly 198,000 miles of pipelines and over 7,600 storage tanks. While this is the safest mode of transportation for hazardous liquids, the volume and nature of the cargo can present environmental risks, particularly in high-consequence areas.

Major hazardous liquid pipeline spills (greater than 10,000 gallons) are the largest class of spills, and the most likely to result in environmental harm. Major spills account for 96 percent of all volume released into the environment from hazardous liquid pipelines. In addition to tracking major hazardous liquid pipeline spills, PHMSA will continue to analyze and develop unique strategies for reducing the number of medium and minor spills, particularly those with the potential for major release.
PERFORMANCE REPORT

Hazardous Liquid Pipeline Spills (PHMSA)

<table>
<thead>
<tr>
<th>Goal Description</th>
<th>2010</th>
<th>2011</th>
<th>2012 (r)</th>
<th>2013 (r)</th>
<th>2014</th>
<th>2015 Target</th>
<th>2015 Actual</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous liquid pipeline spills with environmental consequences</td>
<td>94</td>
<td>117</td>
<td>124 (r)</td>
<td>120 (r)</td>
<td>141</td>
<td>104</td>
<td>87*</td>
<td>Potentially Met</td>
</tr>
</tbody>
</table>

Progress Update

PHMSA will not meet its target of 107 hazardous liquid spills with environmental consequences, with 146 spills projected by the end of the year. As of October, pipeline operators reported 117 hazardous liquid spills with environmental consequences, exceeding the annual target before the end of the year. From 2002 to 2013, the number of spills with environmental consequences declined by 10 percent every 5 years, on average, with fluctuations year to year. From 2011 to 2013, however, PHMSA failed to meet its targets.

Although it is difficult to explain the increasing trend in spills with environmental consequences, there are several possibilities for the rise. Despite a comprehensive, data-driven, risk-informed approach to addressing the Nation’s highest pipeline risks, most measures of risk exposure—U.S. population, pipeline mileage and pipeline ton-miles—have increased. PHMSA continues to face aging and obsolete pipeline infrastructure including over 800,000 miles of pipelines.
installed before 1970. Many of these pipelines were built with materials that are more vulnerable to deterioration and failure than the materials commonly used today. Of spills with environmental consequences reported from 2010 to 2013, the largest share of spills was attributable to corrosion failure, with both age and material frequently contributing to the failure. Further, pipeline operators may be more attuned to reporting requirements and guidance on the definition of environmental consequences, thus increasing the number of reported spills.

PHMSA continues to take a calculated approach to address high risk pipelines through the expansion of our incident investigations program to better understand the root causes of failures; integration, targeting, and expansion of safety inspections based on the most serious risks; and improvement of data collection and analysis to support risk-informed decision making. While PHMSA’s primary focus is on prevention, accidents can still occur. As such, PHMSA continues to look for ways to reduce safety and environmental consequences of failures through improved leak detection and the use of product control systems; improve the quality and utility of pipeline facility response plans; support coordinated emergency response intervention; and continuation of our safety mission during any incident of national significance; and provide a comprehensive training and qualification program for Federal and State inspectors.

Many spills with environmental consequences occur within facilities that support the operation of the pipelines, such as pump stations and tank farms. Our future plans to address these vulnerabilities are to extend hazardous liquid integrity management principles to facilities and improve the spill reporting instructions to improve the quality of data related to the environmental consequences.

PHMSA also plans to enhance outreach presence among the public and communities including field staff engaging, educating, and empowering the public and first responders to become more involved in pipeline safety. PHMSA wants communities and first responders to know that agency engineers, scientists, educators, and other safety personnel can assist in expanding their understanding of underground damage prevention efforts—including awareness of the “811–Call Before You Dig” public awareness campaign, emergency responder outreach and training, and community land-use planning around existing pipelines.

Additionally, PHMSA is currently working to promote Safety Management System (SMS) and safety culture in the pipeline industry. This requires a commitment to safety on every level of an organization and integrity management plays a role. Specifically, PHMSA has played an integral part in assisting the pipeline industry in the development of an American Petroleum Institute Recommended Practices guidance document on SMS for the industry.

PHMSA plans to change its current pipeline environmental Strategic Performance Indicator. PHMSA proposes substituting a new Strategic Performance Indicator, major hazardous liquid pipeline spills, in place of our current Strategic Performance Indicator, hazardous liquid spills with environmental consequences, beginning in 2016. The details of PHMSA’s proposed new Strategic Performance Indicator are discussed in the 2016 Performance Plan.

**Information Gaps**

PHMSA reports on its Strategic Performance Indicators on a calendar year cycle for consistency with a wide array of stakeholders, which creates a 3-month delay in completing reporting. Additionally, the number of hazardous liquid spills with environmental consequences for 2014 is estimated due to data lags. Title 49 of the Code of Federal Regulations (49 CFR Parts 191, 195)
requires pipeline operators to submit incident reports within 30 days of a pipeline incident or accident. Accordingly, incident data for hazardous liquid spills with environmental consequences lags by 30 days. Accident reports for all spills with environmental consequences in 2014 would not be received until the end of January 2015.

PHMSA proposes substituting a new Strategic Performance Indicator for our current indicator in 2016. Beginning in 2016, PHMSA proposes using major hazardous liquid pipeline spills (greater than 10,000 gallons) in place of the hazardous liquid pipeline spills with environmental consequences indicator. The details of PHMSA’s proposed new Strategic Performance Indicator are discussed in PHMSA’s 2016 Performance Plan.

**PERFORMANCE PLAN**

<table>
<thead>
<tr>
<th>Performance Goal</th>
<th>FY 2016 Target</th>
<th>FY 2017 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce major hazardous liquid pipeline spills with environmental consequences. [New-now counting major spills.]</td>
<td>Hazardous liquid pipeline spills with environmental consequences</td>
<td>23-32</td>
</tr>
</tbody>
</table>

**Key Strategies and Next Steps**

PHMSA’s environmental goals contribute to helping achieve the Secretary’s goal of advancing environmentally sustainable policies and reducing harmful emissions from transportation sources. In its effort to improve pipeline environmental performance, PHMSA will undertake the following strategies to reduce the number of major hazardous liquid pipeline spills:

*Understanding and targeting risk:* A systematic approach to risk management requires a comprehensive understanding of the factors contributing to risk and the ability to focus resources in those areas that pose the greatest risk. PHMSA’s strategy for dealing with this challenge is to:

- Develop our incident investigations program to better understand the root causes of failures;
- Integrate, target, and expand safety inspections based on the most serious risks; and
- Improve data collection and analysis.

*Mitigation and Response:* While our primary focus is on prevention, we recognize that accidents can still occur. Our general strategy for reducing the consequences of failures is to:

- Improve leak detection and the use of product control systems;
- Improve the quality and utility of pipeline facility response plans; and
- Support coordinated emergency response intervention and continuation of our safety mission during any incident of national significance.

*Information Technology:* The PHMSA Pipeline Data Mart provides a central repository for pipeline safety information; the FedStar system provides information and tools for State programs; and the National Pipeline Mapping System provides geospatial information on the national pipeline infrastructure.

*Training:* PHMSA provides a comprehensive training and qualification program for Federal and State inspectors, including a three-year core program for new inspectors.
Partners: State pipeline safety agencies inspect intrastate hazardous liquid pipelines in 14 states. State and local emergency responders play an important role in mitigating the consequences of incidents when they occur.

Pipeline corrosion and material failure are the two leading causes of hazardous liquid pipeline failures. PHMSA’s strategy for dealing with this challenge is to:

- Integrate, target, and expand safety inspections based on the most serious risks; and
- Focus pipeline safety research on methods that might be used to improve identification of defects.

Many spills with environmental consequences occur within facilities that support the operation of the pipelines, such as pump stations and tank farms. Our future plans to address these vulnerabilities are to extend hazardous liquid integrity management principles to facilities and improve the spill reporting instructions to improve the quality of data related to the environmental consequences.

PHMSA also plans to enhance outreach presence among the public and the communities including field staff engaging, educating, and empowering the public and first responders to become more involved in pipeline safety. PHMSA wants communities and first responders to know that PHMSA’s engineers, scientists, educators, and other safety personnel can assist in expanding their understanding of underground damage prevention efforts— including awareness of the “811—Call Before You Dig” program, emergency responder outreach and training, and community land-use planning around existing pipelines.

Additionally, PHMSA is currently working to promote Safety Management System (SMS) and safety culture in the pipeline industry. This requires a commitment to safety on every level of an organization and integrity management plays a role. Specifically, PHMSA has played an integral part in assisting the pipeline industry in the development of an American Petroleum Institute (API) Recommended Practices (RP) guidance document on SMS for the industry.

**Goal Leader**

Jeffrey Wiese, Associate Administrator for Pipeline Safety (PHMSA).

**SHIP DISPOSAL PROGRAM (MARAD)**

**Overview**

MARAD is the disposal agent for Federal Government-owned merchant-type vessels 1,500 gross tons or greater (as required by 40 U.S.C. § 548 of the Federal Property and Administrative Services Act of 1949) and has custody of a fleet of non-retention ships owned by the Federal Government. These include obsolete merchant ships moored at NDRF or other Federal sites that, while part of the NDRF, are not assigned to the Ready Reserve Force (RRF), or otherwise designated for a specific purpose. When ships are determined to be no longer useful for defense or humanitarian relief missions, MARAD arranges for their responsible disposal, on a worst-first basis, in accordance with 16 U.S.C. § 5405(c) of the National Maritime Heritage Act, as amended, and § 3502 of P.L 106-398, the National Defense Authorization Act, Fiscal Year 2001. Vessels are recycled domestically only at MARAD prequalified recycling facilities.
Additionally, MARAD manages compliance with historic reviews and documentation requirements prior to dismantling/recycling or other disposition such as donation, artificial reefing, deep-sinking, or sale for reuse. In 2011, MARAD renewed a Memorandum of Agreement with the U.S. Navy to dispose of its noncombatant auxiliary vessels. The U.S. Coast Guard and MARAD are exploring the feasibility of recycling decommissioned cutters through the Ship Disposal Program.

Due to the presence of onboard hazardous materials, surplus ships pose a risk to the surrounding environment and must be disposed of as early as possible. Proper custodianship of MARAD’s non-retention vessels requires compliance with environmental requirements to ensure measures are taken to eliminate environmental risks associated with vessel storage and arrest deterioration of obsolete vessels awaiting disposal. Disposal of deteriorating obsolete ships lessens environmental risk and makes sense not only from the standpoint of avoiding environmental harm, but also for efficiently reducing costs. Environmental cleanup costs after a hazmat discharge incident are far higher than the cost of proper and timely disposal.

**PERFORMANCE REPORT**

<table>
<thead>
<tr>
<th>Goal Description</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015 Target</th>
<th>2015 Actual</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce risk of environmental contamination from disposal of Federally owned vessels by maintaining a 1:1 ratio of incoming vessels to vessels removed</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>Met</td>
</tr>
<tr>
<td>Cumulative number of ships (2010–2017) safely removed from the Suisun Bay Reserve Fleet (SBRF) for disposal</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>Met</td>
</tr>
</tbody>
</table>

**Progress Update**

The Ship Disposal program provides resources to properly dispose of obsolete Government-owned ships maintained by MARAD in the National Defense Reserve Fleet (NDRF) or in other Federal sites. This program conducts ship disposal primarily through dismantling/recycling for obsolete, Government-owned vessels in an environmentally-responsible manner that further reduces the risk of environmental contamination while contributing to the domestic recycling industrial base. Maintaining a consistent obsolete ship removal rate is necessary to reduce reserve fleet operating costs, mitigate environmental risks common with aging ships, and help ensure that a costly backlog of obsolete ships do not accumulate at MARAD’s fleet sites. For FY 2015, MARAD achieved the ratio of 1.0 of incoming vessels to vessels removed for disposal.

By the beginning of FY 2015, a total of 52 of the 57 Suisun Bay Reserve Fleet (SBRF) obsolete vessels identified in the California consent decree. MARAD has expeditiously removed vessels from the SBRF at a rate higher than required in the decree. Two of the five remaining obsolete vessels were removed from the SBRF in FY 2015, bringing the cumulative number of vessels removed to 54, ten vessels above the target. The last three obsolete ships are scheduled for
removal from the SBRF in FY 2017, meeting the consent decree requirement to remove all 57 ships by the end of FY 2017.

**PERFORMANCE PLAN**

<table>
<thead>
<tr>
<th>Goal</th>
<th>Indicator</th>
<th>FY 2016 Target</th>
<th>FY 2017 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce risk of environmental contamination from disposal of Federally owned vessels by maintaining 1:1 ratio of incoming vessels to vessels removed.</td>
<td>Ratio of incoming vessels to vessels removed for disposal.</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Cumulative number of ships (2010–2017) safely removed from the Suisun Bay Reserve Fleet (SBRF) for disposal.</td>
<td>SBRF vessels removed per consent decree.</td>
<td>50</td>
<td>57</td>
</tr>
</tbody>
</table>

**Key Strategies and Next Steps**

It is anticipated that approximately two to four NDRF ships per year will be downgraded to obsolete status and added to the disposal queue. The number of ship disposals in a given year is primarily dependent on minimal price volatility in the recycled scrap steel markets. High scrap steel prices portend ship sales while low prices require sustained appropriations to procure ship recycling services. Extreme price volatility in the scrap steel markets creates uncertainty which swings ship recycling awards between sales and service contracts. Fluctuations in the actual per ship disposal costs, as a result of scrap steel price volatility along with regulatory, industry capacity, competition and appropriations affect the number of ships that can be disposed. Ship disposals will continue to utilize only MARAD qualified and regulatory compliant domestic dismantling and recycling facilities. Primary activities in carrying out the objectives of the Ship Disposal Program include the following:

- Conducting ship recycling for obsolete, Federally-owned, merchant vessels in an environmentally responsible manner that reduces the risk of environmental contamination.
- Preventing the potential spread of invasive species by cleaning NDRF ships of marine growth in dry-dock or with approved in-water hull cleaning methods prior to removing ships from one biogeographical area to another for disposal.
- Conducting open and competitive solicitations for ship recycling services in a best-value manner that maximizes sale revenue, minimizes Government costs, and takes advantage of the capacity of the domestic ship recycling industry.

Consistent annual funding for the Ship Disposal Program is the most effective strategy to sustain program performance during unpredictable market fluctuations for scrap steel, fuel and periods of limited industrial capacity, all of which has a significant effect on the cost of vessel disposal.
Domestic and international scrap steel prices fell sharply during 2015, reflecting downward trends in virtually all metal and commodity markets. At the beginning of FY 2015, scrap steel was selling for approximately $353 per ton. By September 2015, scrap steel prices collapsed to $200 per ton, and by December 2015 fell to $142 per ton. Scrap steel prices are currently at levels not seen in the last ten years. The scrap steel price outlook remains uncertain with reduced economic activity in China driving the price decline. Industry analysts do not see a substantive price recovery until maybe late 2016 or early 2017. The average price of scrap steel is expected to maintain a range of $150 - $250 per ton. The price decline in FY 2015 has eroded vessel sales for recycling, especially vessels from the West Coast that must be towed to Gulf Coast recycling facilities. As a result MARAD, using appropriated funds, procured recycling services for the disposal of the two most recent recycling awards from the SBRF.

When the program is able to sell vessels for recycling, this provides a tangible benefit that returns sales proceeds to MARAD. These proceeds are then used to fund the maintenance, repair and improvement of vessels in the NDRF; the preservation and presentation of maritime heritage property through the National Maritime Heritage Grants Program; and, expenses incurred by the U.S. Merchant Marine Academy and six State Maritime Academies. The Ship Disposal Program has generated approximately $67 million in revenue over the past 5 years (FYs 2010-2015) from the sale for dismantling/recycling of 56 NDRF non-retention vessels.

**Goal Leader**

Kevin Tokarski, Associate Administrator for Strategic Sealift, Maritime Administration

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**Reduce DOT Environmental Impacts (OST)**

**Overview**

Building, operating and maintaining transportation systems has environmental consequences, and DOT faces many challenges for reducing carbon and other harmful greenhouse gas emissions, promoting energy independence and addressing global climate change for the Department’s own operations and facilities. Under EO 13693, DOT is required to increase efficiency; measure, report and reduce greenhouse gas emissions; conserve and protect water resources; eliminate waste, increase recycling, and prevent pollution in its own facilities and
operations. It must also acquire environmentally preferable materials, products, and services; design, construct, maintain and operate high performance sustainable buildings; and strengthen the vitality and livability of local communities.

The Department is committed to achieving the above sustainability goals; however the following factors may impact the effectiveness of these efforts:

- Increase or change of core mission responsibilities.
- Alteration of existing and future appropriation of funds.
- New or revised sustainability requirements.
- Other unforeseen circumstances outside the control of the Department.

### PERFORMANCE REPORT

#### DOT Environmental Impacts (OST)

<table>
<thead>
<tr>
<th>Goal Description</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015 Target</th>
<th>2015 Actual</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent improvement in water efficiency</td>
<td>(1.2%)</td>
<td>(9.7%)</td>
<td>0.9%</td>
<td>24.1%</td>
<td>19%</td>
<td>16%</td>
<td>N/A†</td>
<td>N/A†</td>
</tr>
<tr>
<td>Percent recycling and waste diversion</td>
<td>N/A</td>
<td>N/A</td>
<td>11%</td>
<td>20%</td>
<td>31%</td>
<td>50%</td>
<td>31%</td>
<td>Not Met</td>
</tr>
<tr>
<td>Percent of all applicable contracts that meet sustainability requirements</td>
<td>N/A</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
<td>N/A†</td>
<td>N/A†</td>
<td></td>
</tr>
</tbody>
</table>

† Available in spring 2016

### Progress Update

OST’s Office of Sustainability and Safety Management (OSSM) will continue to strengthen the Department’s culture of sustainability by developing long-term strategic plans, guidance documents for implementation, sharing best practices, tracking performance and providing training and outreach activities that promote sustainability goals such as sustainable acquisition and bio-preferred purchasing, reducing waste, recycling, and using environmentally friendly technology practices. OSSM completed the following accomplishments in FY 2015:

- Improved the process and quality of water and waste data collection throughout the OAs.
- Updated the Department’s Strategic Sustainability Performance Plan as per EO 13693.
- Provided ongoing technical support and guidance to each of the 10 OAs. OST provides guidance regarding activities such as Energy Efficiency and Renewable Energy Consumption, High Performance and Sustainable Buildings, Performance-based Contracts, Water, Waste Management, Sustainable Acquisition, Electronic Stewardship and Fleet Management. This support ensures the Department continues to meet the latest regulatory and legislative requirements along with organizational goals. Additionally, the office continues to update a guidance manual(s) for departmental field offices for implementing the above referenced policies.
**PERFORMANCE PLAN**

**DOT Environmental Impacts (OST)**

<table>
<thead>
<tr>
<th>Goal</th>
<th>Indicator</th>
<th>FY 2016 Target</th>
<th>FY 2017 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divert 50 percent of non-hazardous solid waste annually from landfills (excluding construction and demolition waste).</td>
<td>Percent of solid waste diverted from landfills.</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Reduce DOT water use 36% from an FY 2007 baseline by FY 2025.</td>
<td>Percent reduction from the FY 2007 water use baseline.</td>
<td>16%</td>
<td>18%</td>
</tr>
<tr>
<td>Meet sustainability requirements in 100 percent of all applicable contracts annually.</td>
<td>Percent of contracts that meet sustainability requirements</td>
<td>95%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Key Strategies and Next Steps**

**Leadership in Sustainability Scorecard:** The Department will continue to evaluate each OA’s sustainability performance during the internal management review meetings with the Deputy Secretary. The scorecards have been updated to reflect current priority areas such as waste diversion.

**Policy Orders, Action Memos, and Guidance Documents:** The Department plans to update its sustainability policy orders and will continue working on supporting guidance documents that help to reduce its environmental footprint and resource consumption and ensure that its buildings and fleet are performing efficiently with the best return on investment for the American people.

**Building Capacity:** The Department will work to incorporate sustainable acquisition training into the core requirements for the acquisition workforce based on expected Office of Federal Procurement Policy’s, or OFPP’s, Policy Letter.

**Data Quality:** The Department will continue to work to improve the quality and quantity of environmental data including exploring contract modifications and more frequent reporting.

**Annual Reports to the Office of Management and Budget (OMB):** The Department will continue to track and update its strategies and departmental performance to meet requirements related to reports such as the Strategic Sustainability Performance Plan and the OMB Scorecard. The 10-year DOT Strategic Sustainability Performance Plan identifies the far reaching programs and activities that must be instituted to meet the 2010-to-2020 energy, environmental, and sustainability requirements. In addition, these are incorporated in the DOT 2014–2018 Strategic Plan.

**Goal Leader**

Jeff Marootian, Assistant Secretary for Administration & Chief Sustainability Officer, Office of the Secretary