



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

**MEMORANDUM**

**SUBJECT:** EPA Penalty Policy for Violations by Ships of the Sulfur in Fuel Standard and Related Provisions

**FROM:** Phillip A. Brooks, Director *PAB*  
Air Enforcement Division, Office of Civil Enforcement

**TO:** Mobile Source Enforcement Personnel

Attached is the policy for assessing civil penalties for violations of the fuel sulfur standards applicable to ships operating in the North American and U.S. Caribbean Sea Emissions Control Areas (ECAs). This policy is intended to be used by the United States Environmental Protection Agency (EPA) in calculating the penalty that the EPA will seek in settlement of enforcement actions for violations of certain provisions of the Act to Prevent Pollution from Ships, (APPS) 33 U.S.C. §1901 *et. seq.*, which implements MARPOL, Annex VI. MARPOL is the International Convention for the Prevention of Pollution from Ships; Annex VI is the portion of MARPOL that regulates air pollution from ships. Together APPS and MARPOL Annex VI establish the fuel sulfur standards applicable to ships operating in the ECAs. MARPOL Annex VI is implemented in the United States through APPS.

This policy adheres to the *EPA Policy on Civil Penalties* (EPA General Enforcement Policy #GM-21, February 16, 1984), and *A Framework for Statute-Specific Approaches to Penalty Assessments* (EPA General Enforcement Policy #GM-22, February 16, 1984). Accordingly, the purpose of this policy is to deter potential violators, ensure that the EPA assesses fair and equitable penalties, and expedite the resolution of claims arising from certain categories of non-compliance with the APPS.

This policy is immediately effective with respect to all enforcement actions initiated after the date of the policy, and all pending enforcement actions in which the government has not yet transmitted a proposed settlement penalty amount. It may be applied in pending cases in which penalty negotiations have commenced, at the discretion of the case team.

If you have any questions about this policy, please contact Jacqueline Robles Werner (202-564-1036) or Meetu Kaul (202-564-5472) in the Air Enforcement Division of the Office of Civil Enforcement.

Attachment

# North American and U.S. Caribbean Sea Emissions Control Areas Penalty Policy for Violations by Ships of the Sulfur in Fuel Standard and Related Provisions

January 2015

## I. Introduction

This document sets forth the U.S. Environmental Protection Agency's (the EPA or the Agency) policy (Penalty Policy) for assessing civil penalties for violations of certain provisions of the Act to Prevent Pollution from Ships (APPS), 33 U.S.C. §1901 *et. seq.*, which implements MARPOL Annex VI. MARPOL is the International Convention for the Prevention of Pollution from Ships; Annex VI is the portion of MARPOL that regulates air pollution from ships. Together APPS and MARPOL Annex VI establish the fuel sulfur standards applicable to ships operating in the North American and U.S. Caribbean Sea Emissions Control Areas (ECAs). MARPOL Annex VI is implemented in the United States through APPS. Pursuant to section 1907(f)(2) of APPS, the EPA has the authority to take enforcement action for violations of certain provisions of APPS, whenever such violations have been referred to the EPA by the U.S. Coast Guard.<sup>1</sup> Pursuant to section 1908(b) of APPS, the EPA may assess a civil penalty of \$25,000<sup>2</sup> per violation, per day.<sup>3</sup> Civil penalties must be calculated "taking into account the nature, circumstances, extent, and gravity of the prohibited acts committed and, with respect to the violator, the degree of culpability, any history of prior offenses, ability to pay, and other matters as justice may require" (33 U.S.C. §1908(b)).

This Penalty Policy adheres to the EPA *Policy on Civil Penalties* (EPA General Enforcement Policy #GM-21, February 16, 1984), and *A Framework for Statute-Specific Approaches to Penalty Assessments* (EPA General Enforcement Policy #GM-22, February 16, 1984) (collectively referred to in this Penalty Policy as the *Policy on Civil Penalties*).<sup>4</sup> Accordingly, the purpose of this Penalty Policy is to deter potential violators, ensure that the EPA assesses fair and equitable civil penalties, and expedite the resolution of claims arising from certain categories of noncompliance with the APPS.

Like the EPA's other penalty policies, this Penalty Policy contains two components. First, it describes how to achieve the goal of deterrence through a penalty that removes the economic

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<sup>1</sup> The U.S. Coast Guard may establish its own independent penalty policies for matters that are not referred to the EPA for enforcement.

<sup>2</sup> APPS provides for a statutory maximum of \$25,000 per violation, per day, as originally enacted. The EPA plans, as required by Section 4 of the Federal Civil Penalty Inflation Adjustment Act of 1990, 28 U.S.C. §2641, as amended by the Debt Collection Improvement Act of 1996, 31 U.S.C §3701, to adjust the statutory maximum.

<sup>3</sup> For the purpose of this Penalty Policy, a "day" should be considered to be one calendar day; if a ship crosses a time zone boundary, the time in the zone where the ship first crosses the ECA boundary should be used to determine the number of days of violation.

<sup>4</sup> See, <http://www.epa.gov/compliance/resources/policies/civil/penalty/epapolicy-civilpenalties021684.pdf>.

benefit<sup>5</sup> of noncompliance, and reflects the gravity of the violation. Second, it discusses adjustment factors applied to obtain a fair and equitable penalty. These components address the statutory penalty factors discussed above. The case team should calculate the full economic benefit of noncompliance and the gravity components of the penalty, and then decide whether any of the adjustment factors are applicable.

This Penalty Policy was developed primarily to address violations of the fuel sulfur standard contained in Regulation 14.4 of Annex VI as it applies to the U.S. portion of the ECAs, but a ship burning non-compliant fuel may also be in violation of other requirements of MARPOL Annex VI. For example, pursuant to Regulation 14.6, ships are required to maintain a written procedure showing how the fuel oil change-over is to be done, and a log recording change-over details, including recording certain measurements in fuel tanks prior to the entry into, or commenced after exit from, an ECA. Any ship that does not use compliant fuel in an ECA may have also failed to establish and/or follow a change-over procedure, and/or make and record measurements required by Regulation 14.6. Regulation 18.6 requires ships to receive and maintain bunker delivery notes for a period of three years after the fuel oil has been delivered onboard. Regulation 18.8.1 requires ships to maintain a representative sample of the fuel oil delivered to the ship for a period of twelve months from the time of delivery. Each failure, on each day it occurred, is a separate violation. The EPA may calculate penalties for violations of MARPOL Annex VI, APPS, and regulations other than those covered by this Penalty Policy on a case-by-case basis, may amend this Penalty Policy, or may create a separate penalty policy.

This Penalty Policy should be used to calculate civil penalties in negotiated settlements. This Penalty Policy is not intended to and does not control the penalty amount requested in a case where a complaint has been filed. It is the EPA's policy in such cases to assert a claim for up to the maximum penalty allowable under APPS. Therefore, after a complaint has been filed, use of this Penalty Policy is limited to negotiated settlements.

The procedures set out in this Penalty Policy are intended solely for the guidance of government personnel. Such procedures are not intended to create substantive or procedural rights enforceable by any party in litigation with the United States. The Agency reserves the right to act at variance with this policy and to change it at any time. This Penalty Policy is effective immediately with respect to all cases in which the first penalty offer has not yet been transmitted to the alleged violator.

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<sup>5</sup> While APPS does not specify economic benefit among the civil penalty assessment factors, it is included here in order to be consistent with goals underlying the EPA's penalty approach in enforcement cases under other environmental statutes. APPS authorizes the EPA to take into account other factors "as justice may require," clearly allowing for the EPA's longstanding practice regarding consideration of economic benefit.

## II. The Preliminary Deterrence Amount

The *Policy on Civil Penalties* establishes deterrence as an important goal of penalty assessment. More specifically, it states that a penalty should remove any significant economic benefit resulting from noncompliance. In addition, the penalty should include an amount beyond recovery of the economic benefit to reflect the seriousness of the violation. The portion of the penalty that recovers the economic benefit of noncompliance is referred to as the “economic benefit component;” that portion of the penalty which reflects the seriousness of the violation is referred to as the “gravity component.” When combined, these two components yield the “preliminary deterrence amount.”

The remaining sections provide guidelines for calculating the economic benefit component and the gravity component of the civil penalty, and discuss the limited circumstances which justify adjusting either component.

### A. The Economic Benefit Component

In order to ensure that civil penalties recover any significant economic benefit of noncompliance, it is necessary to have reliable and uniform methods to calculate that benefit. The existence of reliable and uniform methods also strengthens the Agency's position in both litigation and negotiation.<sup>6</sup> This section sets out guidelines for calculating the economic benefit component.

In most cases, the economic benefit from violating the fuel sulfur standard is the avoided cost of purchasing compliant fuel, compared to the price of the non-compliant fuel used. The economic benefit may generally be calculated from Equation 1:

#### Equation 1

$$B = (F_e - F_w) * U$$

Where:

- **B** is the economic benefit;
- **F<sub>e</sub>** is the cost<sup>7</sup> per metric ton of compliant fuel, (*i.e.* 1.00% sulfur through December 31<sup>st</sup> 2014, and 0.10% sulfur thereafter);
- **F<sub>w</sub>** is the cost<sup>8</sup> per metric ton, of the non-compliant fuel that was used by the violating ship; and,

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<sup>6</sup> In litigation or in unusual cases in negotiation, the Agency may consider other data and methods that may yield a more accurate economic benefit for that particular case.

<sup>7</sup> Through December 31, 2014, the cost is based on the world-wide average for IFO 180. Starting in January 1, 2015, the cost is based on the world-wide average for compliant MGO.

<sup>8</sup> The cost is the world-wide average for IFO 380 unless the actual cost of the fuel used is known, in which case **F<sub>w</sub>** is the actual cost.

- **U** is the amount (in metric tons, or MT) of non-compliant fuel burned while in the United States portion of the ECAs.

**i. Methods for determining the cost of fuel**

As set out below, there are two methods for determining the cost of fuel.

**a. Method 1: Direct reporting of fuel cost**

Because fuel is usually the largest single expense for ocean going ships, careful records of fuel cost are almost always maintained by a ship's Master and Chief Engineer, under the direction of the owner, operator, and/or charterer. The ship should be able to readily produce a record of the cost of the non-compliant fuel used. The fuel type is typically documented in the bunker delivery notes. This method should be used to determine **F<sub>w</sub>** if the information has been obtained as of the time of the penalty calculation. In most cases, where a ship does not have compliant fuel, this method would not be used to calculate **F<sub>e</sub>** and the estimation method below should be used.

**b. Method 2: Estimation**

**F<sub>e</sub>** and **F<sub>w</sub>** may be calculated as the average world-wide fuel costs for the relevant fuel. The average fuel costs are dependent on the fuel type and the market price at the time of violation.<sup>9</sup>

**ii. Methods for determining the amount (in metric tons) of non-compliant fuel burned (U)**

There are two methods for determining **U** (the amount in metric tons of non-compliant fuel burned). If fuel use records gathered directly from the ship are available, use Method 1. If it is not possible or not practical to obtain fuel use records, use Method 2 to estimate the non-compliant fuel burned.

**a. Method 1: Direct reporting of fuel used**

Because fuel is usually the largest single expense for ocean going ships, careful records of fuel use are almost always maintained by a ship's Master and Chief Engineer, under the direction of the owner, operator, and/or charterer. The ship should be able to readily produce a calculation of the fuel used during the time that the ship was in an ECA. The ship should also be able to produce supporting calculations, which in most cases would consist of ship speed, hourly fuel consumption, auxiliary engine, and boiler fuel use. Because many violations can be discovered during an inspection while the ship is docked after transiting into an ECA, be sure to identify and consider any noncompliance that may have occurred when the ship left the location where the violation was discovered, and traveled further within an ECA or left an ECA.

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<sup>9</sup> *Bunkerworld* and *Ship and Bunker* make this data publically available. See, <http://www.bunkerworld.com> and <http://shipandbunker.com/>.

***b. Method 2: Estimation***

Method 2 should be used to calculate non-compliant fuel consumption when reliable information cannot be readily obtained from the ship. Appendix 1 contains information on fleet characteristics and fuel consumption that can be used in this calculation as the default assumptions when the case team has not identified what it believes is a more appropriate set of parameters and/or assumptions.<sup>10</sup> Method 2 assumes:

- The propulsion and auxiliary engines are used at a constant load during the entire time that the ship is in the ECA.
- The ship is operating at cruising speed while in the ECA.
- Boiler operation is negligible.<sup>11</sup>

The following general steps should be used to calculate the amount of non-compliant fuel consumed:

1. Determine the distance traveled in the ECA in nautical miles (NM):
  - a. If information on distance traveled in the ECA in NM is available in the ship records or in other reliable sources, use the value reported. If the distance cannot be calculated from the ship's documentation.
    - i. Assume that the ship takes the most direct path from the point of entry into the ECA to its berth. Therefore, a one-way voyage is at least 200 NM (the "ECA distance") from ECA entry to port;<sup>12</sup>
    - ii. Assume that the ship follows established sea lanes when operating between two ports within the ECA. Obtain the port-to-port distance for the established sea lanes from the U.S. Coast Guard when a ship traveled within the ECA.
2. Use Appendix 1 to determine ship speed in knots.
3. Calculate total travel time (**T**) in hours as distance travelled (NM) divided by ship speed in knots.
4. Use Appendix 1 to determine the hourly fuel consumption (**HF**) by summing the average fuel consumption (**AFC**) in metric tons per day for the main and auxiliary engines, and dividing by 24 hours/day.
5. Calculate the total fuel consumed (**U**) by multiplying the hourly fuel consumption (**HF**) by the total time traveled in hours (**T**).

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<sup>10</sup> The EPA may revise Appendix 1 from time to time to reflect experience, trends and better data. The case team may choose not to use Appendix 1, and instead use any source of data it identifies as sufficiently reliable.

<sup>11</sup> Certain ships may have unusual fuel use patterns that should be considered. For example, some ships have cargo that must be kept heated. These ships may use boilers or heaters that consume significant fuel, and that fuel use should be analyzed as part of an economic benefit calculation.

<sup>12</sup> The ECA distance may be longer if, for example, a ship has traveled from one U.S. coastal location to another, or shorter, if it enters the ECA in a location where the ECA boundary is significantly less than 200 NM. If the number of miles traveled is available in the documentation, use the distance reported rather than the 200 NM.

Table 1 provides an example calculation using Method 2 to calculate non-compliant fuel consumption. Table 2 provides an example of calculating the economic benefit (**B**) using Equation 1 after the fuel consumption has been determined.

#### **Table 1 – Example of Fuel Use Estimation Method**

On May 13<sup>th</sup>, 2015, a Suezmax crude oil tanker, the *MV Bonum Caeli*, arrives at an east coast port without compliant fuel, but bunkers compliant fuel immediately upon arriving in port. For this example, assume that the ECA distance is 200 NM. From Appendix 1, we see that the ship speed for a Suezmax tanker is 13.2 knots (column 2), so the time (**T**) to travel the ECA distance is calculated as follows:

- $200 \text{ NM} / 13.2 \text{ knots} = 15.1 \text{ hours}$ .

The same line in Appendix 1 shows that daily fuel consumption for the main engine is 52.8 MT (column 12), and for the auxiliary engines is 5.6 MT (column 14). The daily fuel consumption of the main and auxiliary engines should be added together to obtain the total daily fuel use, so the hourly fuel (**HF**) consumption is calculated as follows:

- $(52.8 + 5.6) / 24 \text{ hours} = 2.4 \text{ MT per hour}$ .

Therefore, the total fuel consumed (**U**) by the *MV Bonum Caeli* while traveling in the ECA is calculated as follows:

- **U** is  $\mathbf{T * HF}$  or  $15.1 \text{ hours} * 2.4 \text{ MT/hr} = 36.2 \text{ MT}$ .

#### **Table 2 – Example of Economic Benefit Calculation**

On May 13<sup>th</sup>, 2015, a Suezmax crude oil tanker, the *MV Bonum Caeli*, arrived at an east coast port without compliant fuel, but bunkers compliant fuel immediately upon arriving in port. The value of **Fe** (0.10% sulfur), the average cost of ECA compliant fuel, was \$675/MT.

The value of **Fw** (IFO 380), the average cost (actual cost not available for this scenario) for non-compliant fuel, was \$328/MT.

Our calculation for the amount of non-compliant fuel burned (**U**) in Table 1 shows that the ship used 36.2 MT of fuel.

Therefore, based on the amount of fuel used by the *MV Bonum Caeli*, the economic benefit (**B**) is  $(\mathbf{Fe} - \mathbf{Fw}) * \mathbf{U}$ , or  $(\$675 - \$328) * 36.2 = \$12,561$ .

Since we anticipate that the penalty will be paid prior to May 12, 2016, we have not added the time value of money that the BEN model would generate.



For violations of equivalent emissions controls allowed as an alternative to Annex VI pursuant to Regulation 4, the economic benefit to be derived from noncompliance includes the delayed expenditures necessary to achieve compliance. The case team should develop a method for calculating economic benefit on a case-by-case basis in these situations, and should document the method used and calculations in the case file. For violations of ECA requirements other than the fuel sulfur standards (*i.e.*, recordkeeping requirements pursuant to regulation 14.6 in Annex VI), the case team should calculate economic benefit using the general considerations of avoided and delayed costs, and should document the method used and calculations in the case file.

If the penalty will be paid more than one year after the violation, the negotiating team should use the EPA's BEN<sup>13</sup> model to calculate the time value of the money that the violator saved. Additionally, there is a category of economic benefit which is not the result of avoided or delayed costs, that reflects the benefits to the violator that would not have occurred but for the illegal conduct, and/or the illegal competitive advantage the violator obtained in the marketplace as compared to companies that have complied with the fuel sulfur requirements. Depending on the facts of a particular case, such as if the violator profited from the noncompliance, the case team should consider such profit or illegal competitive advantage when calculating economic benefit.

## **B. The Gravity Component**

As noted above, the *Policy on Civil Penalties* specifies that a penalty, to achieve deterrence, should recover any significant economic benefit resulting from noncompliance, and should also include an amount reflecting the seriousness of the violation. Section 1908 of APPS instructs the EPA to take into consideration several factors in setting the appropriate penalty amount including the nature, circumstances, extent and gravity of the violation, culpability of the violator, history of past violations, ability to pay, and other matters as justice may require. This section of the policy establishes an approach to quantifying the preliminary gravity component before adjustments to gravity are made as discussed in later sections of this Penalty Policy.

### **i. Fuel Sulfur Violations**

Table 3 should be used to determine the gravity component for first-time violations of the fuel sulfur requirements. Any subsequent violations are subject to adjustments as described in Section III.C. The gravity table below reflects the egregiousness of a violation based on the actual fuel sulfur content and the level it exceeded the applicable standard. Simply put, the higher the sulfur content is in relation to the standard, the more egregious the EPA considers the violation, and the higher the dollar per metric ton figure.

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<sup>13</sup> There are five penalty and financial models used by the EPA to evaluate/analyze the financial aspects of enforcement actions. The "BEN" model is used to calculate a violator's economic savings from delaying or avoiding pollution control expenditures. The BEN model is available at: <http://www2.epa.gov/enforcement/penalty-and-financial-models>.



<b>Table 3</b>		
Actual Fuel Sulfur Content, % m/m <sup>14</sup>	Penalty over duration of violation, first offense – Table 3 (\$)	
	Violation of 1.00% sulfur limit (U = MT of fuel burned while in the U.S. ECAs )	Violation of 0.10% sulfur limit (U = MT of fuel burned while in the U.S. ECAs)
3.5 or higher	\$400*U	\$750*U
3.0	\$350*U	\$700*U
2.5	\$300*U	\$650*U
2.0	\$250*U	\$600*U
1.5	\$200*U	\$550*U
1.25	\$150*U	\$500*U
1.10	\$100*U	\$450*U
1.00	N/A	\$400*U
0.80		\$350*U
0.60		\$300*U
0.40		\$250*U
0.20		\$200*U
0.15		\$150*U
0.10		N/A

For fuel sulfur content levels that are between the listed values in Table 3, the gravity component may be determined by rounding to the nearest values. For fuel sulfur content levels that are between 0.10% and 0.15%, the case team may use its discretion in setting the gravity amount up to \$150.00 per metric ton.

**ii. Record Keeping Violations**

The gravity component for record keeping violations is \$2,500 to \$15,000 per violation, per day, depending on egregiousness. Generally, the first recordkeeping violation would be subject to the low end of the range, while a company that violated record keeping provisions on more than one occasion in the past would be subject to the high end of the range. Egregiousness (and therefore the size of the penalty) also increases with the extent of the missing information, the disorganization of the information, the importance of the missing information to understanding ship emissions, and assessing compliance.

Record keeping violations include:

- Failure to maintain a current International Air Pollution Prevention Certificate (Annex VI, Regulations 6-9).

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<sup>14</sup> Mass percentage.

- Failure to maintain a written procedure showing how the fuel change-over is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuel oils exceeding the applicable sulfur content (Annex VI, Regulation 14.6).
- Failure to record in a log book the volume of the low sulfur fuel oils in each tank as well as the date, time, and position of the ship when any fuel oil change-over operation is completed prior to the entry into, or commenced after exit from, the U.S. portion of the ECAs (Annex VI, Regulation 14.6).
- Failure to maintain bunker delivery notes for a period of three years after the fuel oil has been delivered onboard (Annex VI, Regulation 18.6).
- Failure to maintain a representative sample of the fuel oil delivered to the ship for a period of twelve months from the time of delivery (Annex VI, Regulation 18.8.1).

Table 4 shows an example gravity component calculation.

**Table 4 – Example of Preliminary Gravity Calculation**

On May 13<sup>th</sup>, 2015, a Suezmax crude oil tanker, the *MV Bonum Caeli*, arrived at an east coast port without compliant fuel, but bunkers compliant fuel immediately upon arriving in port. Compliant fuel would have contained less than 0.10% sulfur, while the fuel used by the *MV Bonum Caeli* while transiting the ECA contained 1.25% sulfur.

Our calculation in Table 1 shows that the ship used 36.2 MT of fuel. Based on Table 3, the gravity component for the violation of the fuel sulfur content requirement is  $\$500 \cdot U$ , where  $U$  is 36.2 MT. Therefore, the gravity related to the violation of the fuel sulfur content requirement is  $\$500 \cdot 36.2 = \$18,100$ .

The *MV Bonum Caeli* did not have a written fuel change-over procedure onboard. Typically, for first time violations we pick a number on the lower end of the range (*i.e.*, \$2,500).

Therefore, the total gravity component is  $\$18,100 + \$2,500 = \$20,600$ .

As in the economic benefit example above at Table 2, we anticipate that the penalty will be paid prior to May 12<sup>th</sup>, 2016, and therefore we have not added the time value of money that the BEN model would generate.

**III. Adjustments to the Preliminary Deterrence Amount**

The *Policy on Civil Penalties* provides that the preliminary deterrence amount is simply the sum of the economic benefit penalty component and the gravity penalty component, each calculated as set forth above. In addition to deterrence, however, another goal of the *Policy on Civil Penalties* is the equitable treatment of the regulated community. This requires that penalty

policies must have enough flexibility to account for the unique facts of each case and, at the same time, produce results that are consistent enough to treat similarly situated violators similarly. This is accomplished by identifying many of the legitimate differences between cases, and providing guidelines for how to adjust the economic benefit and gravity components. Thus, the purpose of this section of the Penalty Policy is to identify the applicable adjustment factors, and establish methodologies for their application that promote flexibility while also maintaining national consistency. The adjustment factors are:

- Degree of willfulness or negligence;
- Degree of cooperation;
- History of noncompliance;
- Litigation risk and other unique factors;
- Ability to pay; and
- Performance of a supplemental environmental project (SEP).

It is important to note that other than a demonstrated inability to pay or litigation risk, these adjustment factors may only be applied to the gravity component and not to the economic benefit component.

The application of adjustments prior to the commencement of negotiations yields the initial penalty target figure. During the course of negotiations, the case team may further adjust this figure based on new information to yield the adjusted minimum settlement amount.

The case team is required to base any adjustment of the economic benefit and gravity component on the factors listed above and to carefully document the reasons justifying its application in the particular case.

#### **A. Degree of Willfulness or Negligence**

The APPS, like the Clean Air Act and other environmental statutes, is a strict liability statute for civil actions, so that willfulness, or lack thereof, is irrelevant to the determination of legal liability. However, this does not render the violator's willfulness or negligence irrelevant in assessing an appropriate penalty. Knowing or willful violations can give rise to criminal liability<sup>15</sup>, and the lack of any negligence or willfulness would indicate that no addition to the penalty based on this factor is appropriate. Between these two extremes, the willfulness or negligence of the violator should be reflected in the amount of the penalty. The gravity component may be aggravated by as much as 20% where there is willfulness or negligence.

In assessing the degree of willfulness or negligence, all of the following points should be considered:

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<sup>15</sup> If criminal behavior is suspected, the case team should consult with appropriate EPA and Coast Guard criminal prosecution offices.

- The degree of control the violator had over the events constituting the violation;
- The foreseeability of the events constituting the violation;
- The extent to which the violator in fact knew that its actions were non-compliant;
- The degree to which the violation appears to result from the negligent or ignorant actions of a single individual, versus violations that more closely relate to corporate culture or lack of appropriate corporate environmental or safety policies. For example, failure to consider the availability of compliant fuel oil when planning a voyage, or choosing a ship which has a history of noncompliance within the ECAs, demonstrates a degree of willfulness and/or negligence.<sup>16</sup>

## **B. Degree of Cooperation**

The degree of cooperation or non-cooperation of the violator in resolving the violation is an appropriate factor to consider in adjusting the gravity component of the penalty. Such adjustments are based on both the goals of equitable treatment and quick resolution of environmental problems. In some cases, this factor may justify aggravation of the gravity component because the ship owner or operator is not making efforts to come into compliance, and is negotiating with the Agency in bad faith or refusing to negotiate. Conversely, this factor may justify mitigation of the gravity component because the ship is making efforts to come into compliance and is negotiating with the Agency in good faith.

A threshold indicator of cooperation or non-cooperation is whether the violator promptly reported its noncompliance to the EPA (*e.g.* filing a Fuel Oil Non-Availability Report, “FONAR,”<sup>17</sup> or a Notice of Protest, “NOP”<sup>18</sup>). In situations where the case team concludes that the violator either knew or should have known about the violations, the team has a basis for evaluating whether and how quickly the violator reported the violations to the EPA. Assuming such self-reporting is not required by law or otherwise prompted by other governmental action (*i.e.*, the identification and disclosure of the violation was both voluntary and prompt), such behavior should result in the mitigation of the gravity-based portion of the penalty.

There may be other facts indicating a violator’s degree of cooperation other than prompt or delayed reporting of the violation that may also result in the mitigation of the gravity component of the penalty. For example, the violator may have instituted comprehensive corrective action upon discovery of the violation, or the violator may settle quickly.

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<sup>16</sup> See, <http://www2.epa.gov/enforcement/interim-guidance-non-availability-compliant-fuel-oil-north-american-emission-control> for guidance regarding the United States’ expectations for locating compliant fuel.

<sup>17</sup> See, <http://www2.epa.gov/enforcement/interim-guidance-non-availability-compliant-fuel-oil-north-american-emission-control>.

<sup>18</sup> See, <http://www.state.gov/documents/organization/86728.pdf>. An NOP would be submitted when a ship owner/operator tests fuel that has been brought onboard, and determines that the fuel exceeds that sulfur content listed in relevant Bunker Delivery Note, and also exceeds the relevant regulatory limit.

Under this Penalty Policy, the gravity component may be aggravated or mitigated up to 10%, however, such adjustment greater than 10% must be approved by the Director of the Air Enforcement Division.

### **C. History of Noncompliance**

Evidence that a party has, in the recent past, violated an environmental requirement clearly indicates that the party was not deterred by a previous governmental enforcement response. Unless past violations were caused by factors entirely out of the control of the violator, the penalty should be increased. The case team should check for and consider prior violations under all environmental statutes related to ship operations in determining the amount of the adjustment to be made under this factor.

The following rule of thumb for adjustments to the gravity component should be used at the team's discretion for prior violations of the ECA:

- **One prior violation by the same ship<sup>19</sup> or same company, whether acting as owner or operator** – Increase the gravity component up to 30%.
- **Two or more prior violations by the same ship or same company, whether acting as owner or operator** – Increase the gravity component by up to 70%.

For prior violations of environmental laws other than violations of the ECA, the case team should consider the following points in determining the range of the adjustment:

- Similarity of the violation in question to prior violations;
- Time elapsed since the prior violation;
- The number of prior violations;
- Violator's response to prior violation(s) with regard to correcting the previous problem and attempts to avoid future violations; and
- The extent to which the gravity component has already been increased due to a repeat violation.

A violation should generally be considered "similar" if a previous enforcement response should have alerted the party to a particular type of compliance problem. Some facts indicating a "similar violation" are:

- Violation of the same emissions standard;
- Violation of the same statutory or regulatory provision; and
- A similar act or omission.

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<sup>19</sup> A ship should be referenced to its IMO number, which will not change upon change of ownership or change in the name of the ship.

For purposes of this section, a "prior violation" includes any act or omission resulting in a state, local, or federal enforcement response under any environmental statute related to ship operations. In researching a defendant's compliance history, the case team should check to see if the defendant has been listed pursuant to Section 306 of the Clean Air Act and if so, whether this is relevant to setting a penalty. The case team should also consider environmental violations that may have occurred while the ship was operating outside the North American and U.S. Caribbean Sea ECAs, if readily available.

#### **D. Litigation Risk and other Unique Factors**

A case may present other factors that the case team believes justify a further increase or decrease of the penalty. A case may have particular strengths or weaknesses that the case team believes have not been adequately captured in other areas of this Penalty Policy. For example, if the facts of the case or the nature of the particular regulatory requirement at issue reduce the strength of the Agency's case, this could justify an additional penalty reduction to either the economic benefit or the gravity component. For litigation risk, the gravity component may be mitigated by as much as 10% by the case team. Mitigation of the gravity amount greater than 10% to gravity must be approved by the Director of the Air Enforcement Division. The economic benefit component may be mitigated, but such mitigation must be approved by the OECA Assistant Administrator.

There may be other circumstances in which the facts of a particular case warrant consideration of other unique factors not specifically identified or discussed in this Penalty Policy, or the adjustment based on listed factors at a percentage or in a manner different than described in this Penalty Policy. For example, penalties should be smaller for violators that mitigate emissions, or for violators that take effective steps to promptly remedy any violation upon discovery of the noncompliance and should be larger where remedial action is not taken, or where the action is ineffective. Adjustments for other unique factors must also be approved by the Air Enforcement Division Director.

#### **E. Ability to Pay**

As described in the *Policy on Civil Penalties* and expanded upon in the *Guidance on Determining a Violator's Ability to Pay a Civil Penalty* (December 16, 1986)<sup>20</sup>, the Agency will generally not request penalties that are clearly beyond the means of the violator unless the violations are egregious or the violator refuses to comply in a timely basis. Therefore, under this Penalty Policy, the violator's ability to pay a penalty will be considered in arriving at a specific final penalty amount. At the same time, it is important that the regulated community not interpret a discount based on inability to pay as the EPA sanctioning the efforts of a financially troubled company to gain an unfair competitive advantage by violating the ECA requirements.

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<sup>20</sup> See, <http://www2.epa.gov/sites/production/files/documents/civilpenalty-violators.pdf>.

Therefore, the EPA reserves the option, in appropriate circumstances, of seeking a penalty that might put a company in severe financial distress. For example, it normally would not be appropriate to reduce a penalty for a company with a long history of previous violations. That long history would demonstrate that less severe measures are ineffective. Similarly, a reduced penalty would not be appropriate if a company's business is viable only if the company is able to continue violating the law.

The financial ability to pay adjustment normally will require a significant amount of financial information specific to the violator. If this information is available prior to commencement of negotiations, it should be assessed as part of the initial penalty target figure. If it is not available pre-negotiation, the case team should assess this factor after commencement of negotiations with the violator. The burden to assert and demonstrate an inability to pay, as with the burden of demonstrating the presence of any mitigating circumstances, rests with the violator.

If the violator fails to provide sufficient information, then the case team should disregard this factor in adjusting the penalty in negotiation.<sup>21</sup>

In most cases, a defendant that has established a letter of undertaking<sup>22</sup> for the largest civil penalty amount that the EPA may impose cannot be considered to have a lack of ability to pay that penalty.

## **F. Supplemental Environmental Projects**

Consistent with the April 10, 1998 Supplemental Environmental Project (SEP) Policy<sup>23</sup>, or any subsequent revisions, the case team may consider SEPs proposed by the defendant. A SEP accepted by the EPA will result in a reduced penalty, calculated based on the SEP Policy. While all SEPs that meet the requirements of the SEP Policy should be considered, proposals that require the ship-board installation of technology that will advance the science and practice of determining the compliance status of ships (*e.g.*, technology that monitors SO<sub>2</sub> emissions) are particularly attractive.

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<sup>21</sup> Note that under the Environmental Appeals Board (EAB) ruling in *In re: New Waterbury*, 5 E.A.D. 529 (EAB 1994), in administrative enforcement actions for violations under statutes, such as the Clean Air Act, that specify ability to pay as a factor in determining the penalty amount, the EPA must prove it adequately considered ability to pay in determining the appropriate penalty. As a result, if a mobile source case is enforced through the formal administrative process, and the defendant is expected to raise its ability to pay as an issue, the litigation team should obtain enough information to demonstrate the defendant's ability to pay was adequately considered when the penalty was calculated. This information can be obtained from the defendant, or from independent sources such as Dunn and Bradstreet financial reports on the defendant's business.

<sup>22</sup> See, [http://www.uscg.mil/directives/cim/5000-5999/CIM\\_5582\\_1A.pdf](http://www.uscg.mil/directives/cim/5000-5999/CIM_5582_1A.pdf) for definitions.

<sup>23</sup> See, <http://www2.epa.gov/sites/production/files/documents/fnlsup-hermn-mem.pdf>.



#### IV. Summary of Penalty Calculation

The following table summarizes the adjustment factors that affect the final penalty amount. The worksheet in Appendix 2 can be used in calculating the final penalty figure. Tables 6 provides a penalty adjustment example.

<b>Component</b>	<b>Adjustment Factor(s)</b>	<b>Notes</b>
Economic benefit	None	See Section II.A to determine initial figure, which is based on difference in fuel prices.
Gravity	Degree of willfulness or negligence	See Section II.B to determine initial figure and Section III.A – III.C to determine adjustments.
	Degree of cooperation	
	History of noncompliance	
Overall (EB + Gravity)	Litigation risk	See Section III.D – III.F to determine adjustments. The overall penalty must be less than or equal to the statutory maximum which is calculated as \$25,000 x (days of violation) x (number of violations).
	Ability to pay	
	Supplemental environmental projects	
	Statutory maximum	

<p>On May 13<sup>th</sup>, 2015, a Suezmax crude oil tanker, the <i>MV Bonum Caeli</i>, arrives at an east coast port without compliant fuel, but bunkers compliant fuel immediately upon arriving in port. Compliant fuel would have contained less than 0.10% sulfur, while the fuel used by the <i>MV Bonum Caeli</i> while transiting the ECA contains 1.25% sulfur.</p> <p>Our calculation in Table 4 shows an initial gravity figure of \$20,600.</p> <p>In this case, the Master was not aware of the fuel sulfur requirements, and the owner has a history of noncompliance (see below), thus demonstrating willfulness and/or negligence by both the Master and the owner. Therefore, we increase the gravity by 20%, or \$4,120 (\$20,600*20%).</p> <p>Based on the EPA’s investigation, this ship, owned and operated by this company, had a prior violation within the past year when it entered the ECA with non-compliant fuel, thus demonstrating a history of noncompliance. Therefore, we increase the gravity by 30%, or \$6,180 (\$20,600*30%).</p> <p>In this case, the owner signed an administrative settlement agreement resolving the violations within thirty days of the date when the EPA first sent the owner a written offer to settle the case, thus demonstrating cooperation. Therefore, we decrease the gravity by 10%, or \$2,060 (\$20,600*10%).</p> <p>Our gravity after adjustments is \$28,840 (\$20,600+(\$4,120+\$6,180-\$2,060)).</p>
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**APPENDIX 1. Fleet Characteristics and Calculated Average Fuel Consumption Assumptions by Vessel Type**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ship Type	Vessel speed (knot)	Size by DWT <sup>d</sup>	Minimum Size <sup>d</sup> (DWT)	Maximum Size <sup>d</sup> (DWT)	Number of Ships	Total Horsepower (million)	Main Engine Load Factor	Aux Engine as Percentage of Main Engine	Aux Engine as Percentage of Main Engine at Sea	Average Rating (HP) <sup>e</sup>	Calculated Main Engine AFC (mton/day) <sup>f</sup>	Calculated Aux Engine AFC in Port (mton/day) <sup>g</sup>	Calculated Aux Engine AFC at Sea (mton/day) <sup>h</sup>
Container vessel <sup>a</sup>	19.9	Suezmax	83,000	140,000	101	8.56	80%	22.0%	11.0%	84,752	219.7	48.3	24.2
		PostPanamax	56,500	83,000	465	29.30	80%	22.0%	11.0%	63,011	163.3	35.9	18.0
		Panamax	42,100	56,500	375	15.04	80%	22.0%	11.0%	40,107	104.0	22.9	11.4
		Intermediate	14,000	42,100	1,507	32.38	80%	22.0%	11.0%	21,486	55.7	12.3	6.1
		Feeder	0	14,000	1,100	7.91	80%	22.0%	11.0%	7,191	18.6	4.1	2.1
General cargo carrier <sup>a</sup>	12.3	All	All	3,214	27.07	80%	19.1%	9.5%	8,423	21.8	4.2	2.1	
Dry bulk carrier <sup>a</sup>	14.1	Capesize	79,000	0	715	13.81	75%	22.2%	11.1%	19,315	46.9	10.4	5.2
		Panamax	54,000	79,000	1,287	16.71	75%	22.2%	11.1%	12,984	31.6	7.0	3.5
		Handymax	40,000	54,000	991	10.69	75%	22.2%	11.1%	10,787	26.2	5.8	2.9
		Handy	0	40,000	2,155	19.58	75%	22.2%	11.1%	9,086	22.1	4.9	2.5
Crude oil tanker <sup>a</sup>	13.2	VLCC	180,000	0	470	15.29	75%	21.1%	10.6%	32,532	79.1	16.7	8.4
		Suezmax	120,000	180,000	268	5.82	75%	21.1%	10.6%	21,716	52.8	11.1	5.6
		AFRAMax	75,000	120,000	511	8.58	75%	21.1%	10.6%	16,791	40.8	8.6	4.3
		Panamax	43,000	75,000	164	2.17	75%	21.1%	10.6%	13,232	32.2	6.8	3.4
		Handymax	27,000	43,000	100	1.13	75%	21.1%	10.6%	11,300	27.5	5.8	2.9
		Coastal	0	27,000	377	1.98	75%	21.1%	10.6%	5,252	12.8	2.7	1.4
Chemical tanker <sup>a</sup>	13.2	All	All	2,391	15.54	75%	21.1%	10.6%	6,499	15.8	3.3	1.7	
Petroleum product tanker <sup>a</sup>	13.2	AFRAMax	68,000	0	226	3.60	75%	21.1%	10.6%	15,929	38.7	8.2	4.1
		Panamax	40,000	68,000	352	4.19	75%	21.1%	10.6%	11,903	28.9	6.1	3.1

**APPENDIX 1. Fleet Characteristics and Calculated Average Fuel Consumption Assumptions by Vessel Type**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ship Type	Vessel speed (knot)	Size by DWT <sup>d</sup>	Minimum Size <sup>d</sup> (DWT)	Maximum Size <sup>d</sup> (DWT)	Number of Ships	Total Horsepower (million)	Main Engine Load Factor	Aux Engine as Percentage of Main Engine	Aux Engine as Percentage of Main Engine at Sea	Average Rating (HP) <sup>e</sup>	Calculated Main Engine AFC (mton/day) <sup>f</sup>	Calculated Aux Engine AFC in Port (mton/day) <sup>g</sup>	Calculated Aux Engine AFC at Sea (mton/day) <sup>h</sup>
		Handy	27,000	40,000	236	2.56	75%	21.1%	10.6%	10,847	26.4	5.6	2.8
		Coastal	0	27,000	349	1.54	75%	21.1%	10.6%	4,413	10.7	2.3	1.1
Natural gas carrier <sup>a</sup>	13.2	VLGC	60,000	0	157	5.63	75%	21.1%	10.6%	35,860	87.1	18.4	9.2
		LGC	35,000	60,000	140	2.55	75%	21.1%	10.6%	18,214	44.3	9.3	4.7
		Midsize	0	35,000	863	3.74	75%	21.1%	10.6%	4,334	10.5	2.2	1.1
Other <sup>a</sup>	12.7	All	All		7,675	53.60	70%	20.0%	10.0%	6,984	15.8	3.2	1.6
Car carrier <sup>b,c</sup>	18.0	-	-	-	17	-	83%	22.2%	11.1%	13,028	35.0	7.8	3.9
Roll on-roll off ship <sup>b,c</sup>	18.6	-	-	-	544	-	83%	22.2%	11.1%	17,003	45.7	10.2	5.1
Cruise line vessel <sup>b,c</sup>	21.1	-	-	-	132	-	83%	22.2%	11.1%	68,485	184.2	40.9	20.4

AFC – Average fuel consumption.

“-” Indicates no data available.

a – Vessel speed, vessel size, engine load factors, and raw data used to calculate average HP rating are obtained from EPA’s November 2008 document, *Global Trade and Fuels Assessment – Future Trends and Effects of Requiring Clean Fuels in the Marine Sector* (EPA420-R-08-021).

b – Main engine load factor and raw data used to calculate average HP rating are obtained from the *Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model, 2011 Commercial Marine Vessel (CMV) Inventory Revised Draft Report*, January 23, 2014. For the auxiliary engine load factors, we use the high-end values from EPA’s 2008 document for other vessel types shown in this table.

c – Vessel speed for car carrier, roll on-roll off, and cruise line vessel is calculated as the weighted average vessel speeds using data from the *GREET 2011 CMV Inventory Revised Draft Report*.

d – DWT size descriptions as defined in EPA’s 2008 *Global Trade and Fuels Assessment*, Table 3-4.

e – Average HP rating is calculated by dividing the total HP for all vessels in a subcategory by the number of vessels in that subcategory.

For car carrier, roll on-roll off, and cruise line vessels, the average HP rating is calculated as the weighted average horsepower ratings.

f – Calculated main engine AFC = (main engine load factor) x (calculated AFC).

g – Calculated auxiliary engine AFC = (calculated main engine AFC) x (auxiliary engine load as a percentage of main engine load).

h – Calculated auxiliary engine AFC at sea = (calculated main engine AFC) x (auxiliary engine load as a percentage of main engine load at sea).

## APPENDIX 2. Penalty Worksheet

STEP	AMOUNT
1	Calculate Economic Benefit using Penalty Policy Section II.A (cost of ECA fuel - cost of non-ECA fuel X amount of fuel = Economic Benefit)
2	Calculate Gravity using Penalty Policy Section II.B.i and ii (fuel sulfur content violation + record keeping violation = Gravity)
3	<b>First Preliminary Penalty Amount</b> (line 1 + line 2)
4	Adjust Gravity using Penalty Policy Section III.A, B and C
	A. Degree of Willfulness or Negligence (0 to 20% X line 2)
	B. Degree of Cooperation: Aggravating gravity: (0% to 10%) X line 2 Mitigating gravity: (-10% to 0%) X line 2
	C. History of Noncompliance (0 to 70% X line 2)
	D. Total Gravity after adjustments (line 2+ 4.A + line 4.B + line 4.C)
5	<b>Second Preliminary Penalty Amount</b> (line 1 + line 4.D)
6	Adjust for Litigation Risk reduction using Penalty Policy Section III.D, if applicable (0 to 10% X 4.D)
7	Adjust for Ability to Pay reduction using Penalty Policy Section III.E, if applicable (attach calculation consistent with ability to pay guidance)
8	Adjust for SEP using Penalty Policy Section III.F, if applicable (attach calculation consistent with SEP policy)
9	<b>Third Preliminary Penalty Amount</b> (line 5 – lines 6, 7 and 8)
10	Calculate Statutory Maximum Penalty (if final penalty exceeds statutory maximum reduce penalty to statutory maximum) ( $\$25,000 \times \text{days of violation} \times \text{number of violations} = \text{statutory maximum}$ )
11	<b>Final Penalty Amount</b> (line 9 or line 10)