

This article was downloaded by:

On: 15 January 2011

Access details: *Access Details: Free Access*

Publisher *Taylor & Francis*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Chemistry and Ecology

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713455114>

Florida, USA, Port Experience with Marpol Annex V

Randall W. Parkinson^a

^a Department of Oceanography, Ocean Engineering, and Environmental Science, Florida Institute of Technology Melbourne, Florida, USA

To cite this Article Parkinson, Randall W.(1992) 'Florida, USA, Port Experience with Marpol Annex V', *Chemistry and Ecology*, 6: 1, 109 – 115

To link to this Article: DOI: 10.1080/02757549208035266

URL: <http://dx.doi.org/10.1080/02757549208035266>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

FLORIDA, USA, PORT EXPERIENCE WITH MARPOL ANNEX V

RANDALL W. PARKINSON

*Department of Oceanography, Ocean Engineering, and Environmental Science,
Florida Institute of Technology Melbourne, Florida 32901, USA*

(11 September 1991)

This study assesses the effectiveness of MARPOL Annex V regulations, hereafter referred to as the Annex, using observations of United States Department of Agriculture (USDA) personnel stationed at major Florida ports. The study was initiated at the request of the IIOPS Marine Debris Workshop Steering Committee* and was designed to focus on Gulf and Caribbean experiences gained since the Annex became effective.

INTRODUCTION

Each month, over 700 cruise and cargo ships depart for Gulf and Caribbean ports of call from one of ten major Florida ports (Figure 1). Hence, in addition to being geographically linked to the Gulf and Caribbean region, Florida shipping operations strongly influence the economic and environmental conditions of the area as well.

The United States Coast Guard (USCG) is the federal regulatory agency charged with monitoring foreign vessel compliance with the Annex. However, an agreement was reached between the USDA and the USCG in which the USDA amended their inspection reports to include an Annex compliance survey. This was thought to be a logical method to monitor compliance because USDA personnel routinely board foreign vessels at Florida ports to inspect stores, cargo, and wet waste. Vessels determined to be in violation of the Annex are reported to the port's USCG representative.

METHODS

In order to assess the effectiveness of the Annex a survey was distributed to the USDA Officer-in-Charge at the ten Florida ports shown in Figure 1. Completed surveys were received from all ports except Key West, which was not given sufficient time to respond. The survey was written after extensive discussions with a number of Florida USDA representatives and was designed to (1) determine the extent of vessel compliance with the Annex, and (2) document general observations and suggestions with regard to the practical aspects of the Annex and its enforcement.

* For information pertaining to IIOPS Marine Debris Workshop contact Alex Wypyszinski, Sea Grant Advisory Service, Extension Center, P.O. Box 231, New Brunswick, NJ 08903–9639 USA.

Florida Port Locations

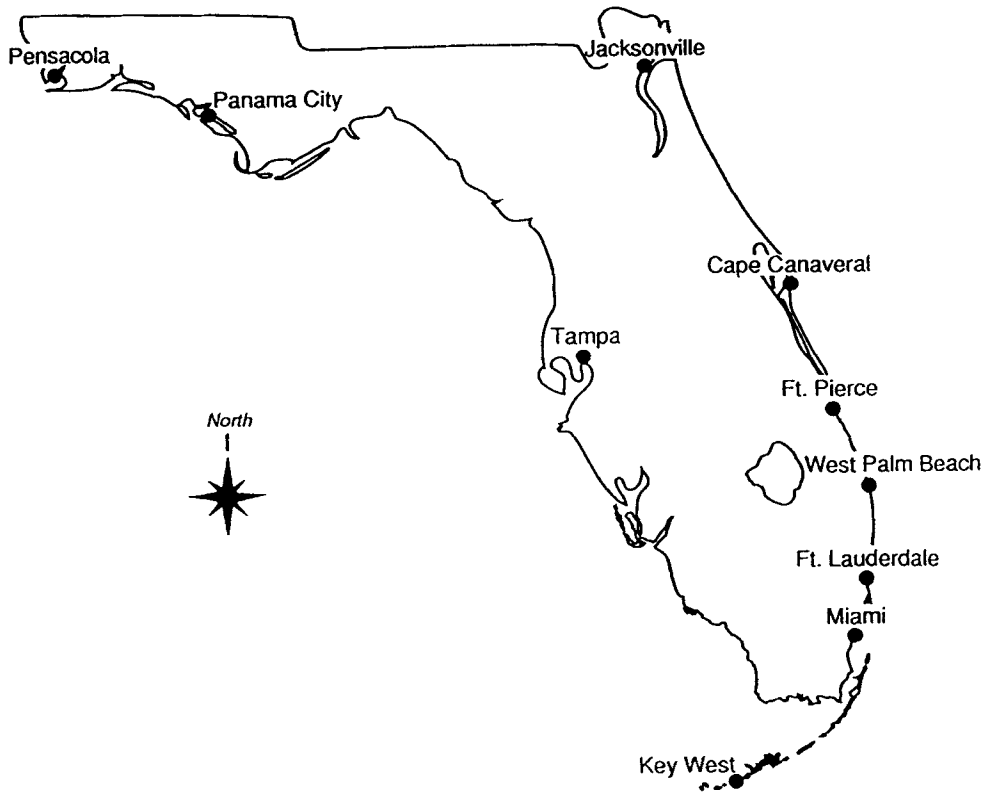


Figure 1 Location of major ports in Florida.

SURVEY RESULTS

General Comments on USDA Procedures

Figure 2 illustrates graphically the procedures followed by most USDA personnel prior to November, 1990. It is based upon survey results and discussions with USDA personnel and apparently varied from port to port. In other words, prior to November, 1990, no standardized inspection procedure had been implemented to determine the extent to which vessels were complying with the Annex.

According to Mr. Russell Smith, Cape Canaveral, Officer-in-Charge, the inspection procedure illustrated in Figure 2 was designed to educate shippers about the Annex. Ships not in compliance with the Annex were given a warning and instructed on how to bring the ship into compliance should they enter a US port of call again. Less than 1% of the foreign vessels received citations during this "educational" period.

In November, 1990, formal USDA inspection guidelines and procedures were established. A check list (Figure 3) was added as an Addendum to the Ship Inspection Report (PPQ Form 288). This form is illustrated graphically in Figure 4. Note that this inspection procedure is distinct from that illustrated in Figure 2

Prior to November 1990

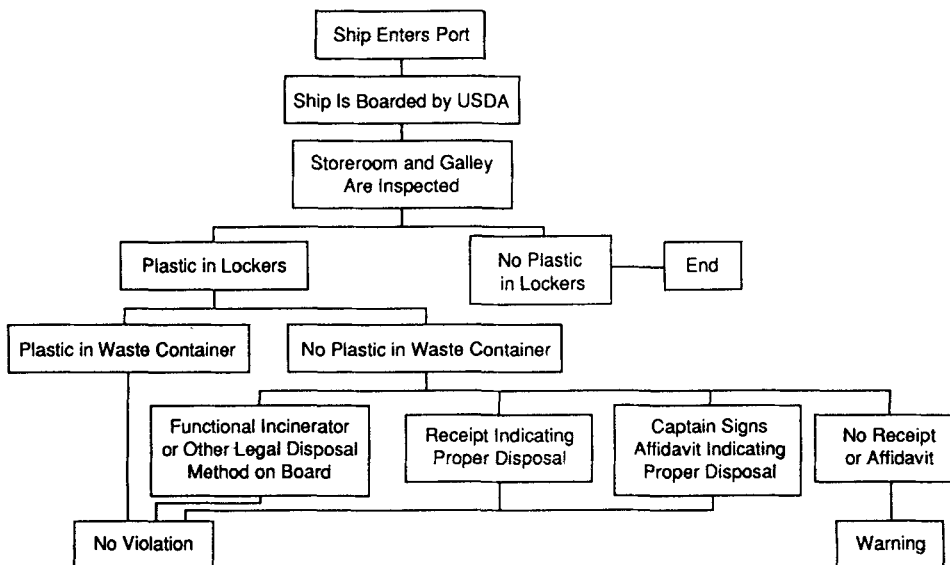


Figure 2 Graphic illustration of USDA procedures followed during inspection of foreign wet waste to determine whether or not a ship is operating in compliance with MARPOL Annex V. Exact procedure varied somewhat between ports as no standardized inspection was established until November, 1990.

ADDENDUM TO SHIP INSPECTION REPORT (PPQ FORM 288)		
VESSEL NAME	VESSEL IDENTIFICATION NO. (For direct foreign arrivals only)	DATE
APHIS MARPOL ANNEX V COMPLIANCE CHECKLIST		
THE FOLLOWING OBSERVATIONS WERE MADE BY APHIS PERSONNEL AFTER INSPECTING VESSEL'S WASTE HANDLING PROCEDURES AND EQUIPMENT:		
1. <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Plastic materials requiring disposal are used aboard the vessel.	
2. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	There are waste plastics in the vessel's trash for disposal ashore.	
3. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	There is a functional incinerator or other disposal method aboard.	
4a. <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Responsible vessel representative was requested to show garbage pickup receipt or other evidence of lawful disposal of plastics ashore.	STATE POSITION HELD
4b. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Responsible vessel representative produced garbage pickup receipt or other evidence of lawful disposal of plastics ashore.	STATE POSITION HELD
		PPQ BOARDING OFFICER INITIALS
		PPQ BOARDING OFFICER INITIALS
REMARKS		

Figure 3 USDA Ship Inspection Report Addendum used to determine if a ship is operating in compliance with MARPOL Annex V. This addendum established a standardized inspection procedure and was implemented in November, 1990. Completed sequence shown in this example constitutes a violation.

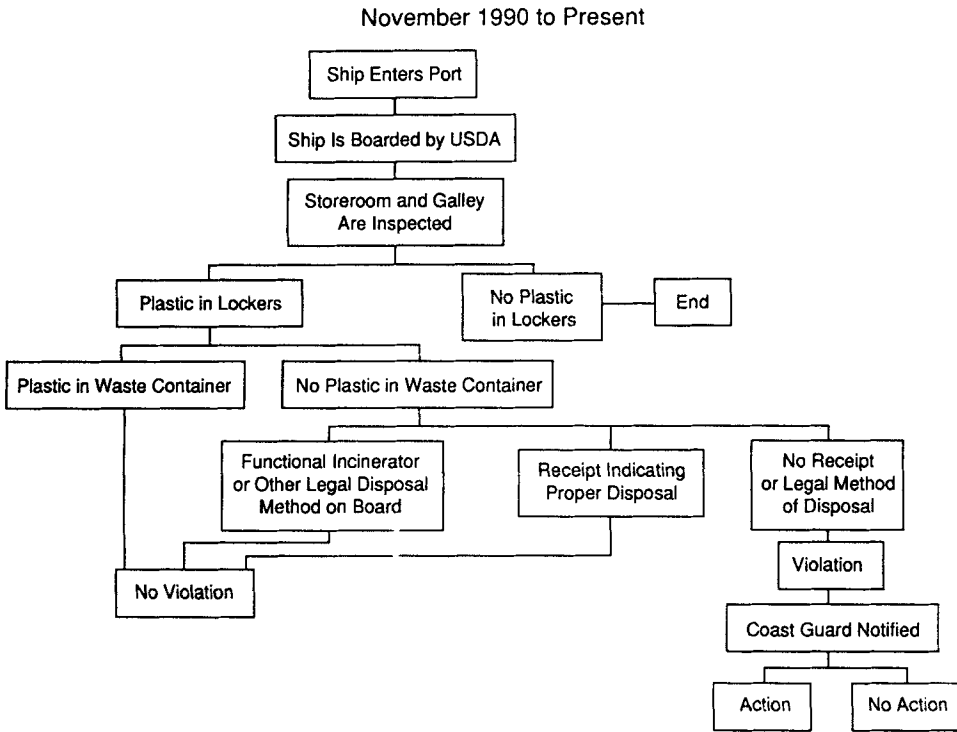


Figure 4 Graphic illustration of Figure 3 inspection procedures.

because ships were no longer given a warning if a USDA officer determined that they were not in compliance with the Annex. Instead, the addendum was forwarded to the port's USCG representative for possible legal action.

Estimates by USDA officers at the nine Florida ports from which surveys were returned indicate that less than 1% of the foreign vessels were in violation of the Annex subsequent to the implementation of the addendum check list. This suggests that most ships are now in compliance with the Annex. However, this statistic is *very* deceiving as some USDA personnel have estimated that greater than 75% of the vessels violate the Annex after leaving a US port of call.

In fact, based upon the survey results, a number of loopholes exist within the current inspection procedures which allow any operator to appear to be in compliance with the Annex, despite obvious indicators of gross violation.

Loopholes in Current USDA Inspection Procedures

No loopholes in USDA inspection procedures identified as Observation 1 and 4a (Figure 3) were noted during this study. Based upon my discussions with USDA personnel and the survey responses, current inspection checklist Observations 2, 3, and 4b (Figure 3) cannot be used to distinguish a complying operator from one who has violated the Annex. Each loophole is discussed below.

Observation 2: Plastic Materials in Waste Container

According to the Ship Inspection Report Addendum, a ship is considered in compliance with the Annex if plastics are observed within the vessel's trash containers. However, it does not specify whether the amount of plastic observed in the waste container is reasonable given the ship's size and number of days at sea. At present, only *one* piece of plastic constitutes compliance.

Secondly, Observation 2 suggests that plastic observed in the vessel's trash container will be properly disposed of at a port reception facility. However, the survey suggests that less than 5% of plastic-laden garbage is off-loaded at Florida ports because disposal ashore is very expensive (~\$75 per m³). The fate of this garbage after departure is unknown, but may include disposal at sea.

Observation 3: Functional Incinerator or Other Legal Disposal Method on Board

If a vessel's trash does not contain waste plastics, but a functional incinerator or other legal disposal method is on board, the ship is considered in compliance with the Annex. To begin with, it is difficult to verify that incinerators or grinders were utilized prior to discharge. Conflicting accounts are often obtained by USDA officers who interview crew members, officers, and passengers. More importantly, neither incineration nor grinding remove plastic from the waste. Discharge of waste treated by either method will introduce plastic into the marine environment.

Observation 4b: Responsible Vessel Representative Produced Receipt Indicating Proper Disposal

Probably the most obvious loophole in this observation is that a receipt may be falsified. However, even if a vessel representative produces a legitimate disposal receipt it is still possible that the off-loaded plastic-laden garbage will end up in the marine environment. Foreign reception facilities may operate in violation of the Annex. For example, it is widely held that the Bahamas Freeport reception facility routinely transports foreign, plastic-laden wet waste to another coastal location where it is discharged into the ocean.

DISCUSSION

Based upon the results of this study, 99% of the foreign vessels which visit Florida ports are in "compliance" with the Annex. Yet less than 5% of these vessels off-load their foreign wet waste at Florida ports. This suggests that the vessels (1) off-load garbage at some other US port, (2) discharge plastic-laden garbage once at sea, or (3) off-load garbage at a Gulf or Caribbean port of call. The survey results could not be used to distinguish between these possibilities. It should be noted that the third option only transfers the garbage problem to a developing country which may not be able to finance a port reception and disposal facility that can handle the material in an acceptable manner.

Many of the USDA survey respondents noted that large shipping firms are generally better informed and in compliance with the Annex when compared to cruise ships or independent cargo operators. Possible explanations given for the poor participation of cruise ships is related essentially to their large operating overheads,

so that cost reduction procedures are encouraged. For example, in less than one month a cruise vessel's disposal bill for legal off-loading of USDA regulated garbage at Port Canaveral was estimated to have reached nearly \$10,000. Small independent cargo vessels are often in violation of the Annex simply because the owners, operators, and crew are not well informed about the Annex. Rapid crew turnover reduces the effectiveness of educational training programmes.

On an encouraging note, the survey asked if the Annex has made a difference in the handling of plastics at sea. The response was a resounding *yes*. This suggests that the effort of Florida USDA officers has been effective in educating vessel operators about the Annex.

RECOMMENDATIONS

Based upon the survey results and numerous discussions with USDA personnel, four recommendations have been identified which would help eliminate USDA inspection loopholes and increase the number of ships operating in true compliance with the Annex.

- (1) The USCG must board and inspect vessels either cited by the USDA or as spot checks to ensure Annex compliance.

Florida USDA survey respondents indicated no knowledge of the USCG ever boarding or citing a vessel identified by the USDA as violating the Annex. Maritime operators are aware of this lack of enforcement. Hence, compliance has become more a consequence of operator cooperation and commitment than of their concern over possible legal action by the USCG. USDA personnel are also aware that their efforts to help promote compliance with the Annex are not at the present time matched by USCG follow-up inspections. In some cases, this has led to a lowering of the enthusiasm with which USDA personnel inspect and report Annex violations.

- (2) All foreign-origin vessels must off-load regulated garbage into USDA-approved containers.

The procedure will reduce potential Annex violations after the vessel departs from a US port and would certainly help to reduce the problems developing countries are now facing at ports where foreign garbage is accepted. One obvious drawback is that most Florida ports do not have sufficient reception and disposal facilities on site. Most ports do have steam cookers, but these are considered inefficient and unpleasant. Therefore, the material is often transported and incinerated at one of the existing disposal facilities (at the time of writing, three such facilities exist in the State of Florida), an expensive operation, as noted above. Clearly, additional incineration facilities would have to be constructed to make this a viable option.

- (3) Shipping company officials should be encouraged to educate crews on the Annex regulations.

A number of organizations currently have education programmes that could be offered to shipping personnel (e.g., the Center for Marine Conservation). Since many crew members are from the Gulf and Caribbean region, Spanish and French translations would be required. This, in fact, has already been initiated by the Center for Marine Conservation and the Puerto Rico Sea Grant College Program.

(4) Review and modify the USDA inspection addendum.

Based upon this study, a number of simple modifications to the USDA inspection addendum could be made so as to eliminate some of the loopholes (described above) which allow cargo and cruise lines to operate in violation of the Annex.

Acknowledgements

This study could not have been conducted without the cooperation and assistance provided by Mr. Russell Smith, USDA Officer-in-Charge at Port Canaveral and Mr. Bill Nicaise, USDA Assistant Regional Director (Area 1). In addition, the following USDA Officers-in-Charge are gratefully acknowledged for their assistance: Mr. Ralph Cooley (Ft. Lauderdale), Ms. Patty Curran-Coto (Palm Beach), Mr. George Forcht (Tampa), Mr. Pete Gross (Jacksonville), Mr. Russell Hill (Pensicola/Panama City), Mr. Richard Morris (Ft. Pierce), and Mr. Carlos Rivera (Miami). Ms. Anita Bromberg is acknowledged for technical assistance.