



Australian Government

Australian Maritime Safety Authority



SPREP

Secretariat of the Pacific Regional
Environment Programme

PORT WASTE RECEPTION FACILITIES GAP ANALYSIS

Papeete, FRENCH POLYNESIA

FINAL REPORT

August 2014

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Objectives

The objective of this project is to carry out a gap analysis on the adequacy of waste reception facilities provided at Papeete port, Tahiti, for ships normally calling at this port.

This analysis is designed to provide an overview of the waste reception services currently provided at the port and identify any gaps in this service, including recommendations on how these gaps can be addressed.

In addition, this analysis can assist in the assessment of Papeete port as a Regional Ships Waste Reception Centre for the purposes of a Regional Reception Facilities Plan for Regional Arrangements in the Pacific.

Scope

The International Maritime Organization Resolution MEPC.83(44) – “Guidelines for Ensuring the Adequacy of Port Waste Reception Facilities” forms a basis for reviewing services currently provided in ports. This resolution includes an assessment procedure, which provides a systematic checklist of questions designed to obtain information about current port facilities, demand, and the type and level of waste service provided.

The gap analysis at Papeete port focused on facilities for ships visiting international and domestic berths, including container, fuel and passenger berths.

MARPOL does not apply to waste generated by land-based operations at the terminal or wharf. This gap analysis considered only **waste generated by vessels** resulting from ships' compliance with MARPOL.

The recommendations will be directed to Port Autonome de Papeete in the first instance; however, there will be other agencies with important roles in implementing the recommendations. The Port Autonome de Papeete will forward the recommendations to those agencies and/or request their assistance as necessary. It is ultimately up to the Government of French Polynesia to determine the appropriate agencies to carry forward the recommendations, although the recommendations make suggestions in this regard.

Background

The International Convention for the Prevention of Pollution from Ships (MARPOL)

MARPOL includes obligations with regard to the provision of waste reception facilities. These obligations are on government authorities, rather than on ships or private companies. The purpose of these obligations is to ensure that ships are able to legally dispose of their waste as an alternative to illegal discharge to the marine environment and/or inappropriate land disposal. Specific regulations are summarised below.

Annex I Regulations for the Prevention of Pollution by Oil

Regulation 38.1 – The Government of each Party to the present Convention undertakes to ensure the provision at oil loading terminals, repair ports, and in other ports in which ships have **oily residues** to discharge, of facilities for the reception of such **residues and oil mixtures** as remain from oil tankers and other ships adequate to meet the needs of the ships using them without causing undue delay to ships.

Regulation 38.2 and 38.3 expand on this basic requirement. The following points are of particular relevance:

- Reception facilities for oily waste are **required in ports and terminals which handle ships provided with the sludge tank(s)** required by regulation 12 *[this means ports that handle ships of 400gt and above]* (38.2.4).
- Such facilities must be sufficient to receive **all residues and oily mixtures** retained in the sludge tanks of **all ships that may be reasonably expected to call at such ports or terminals** (38.3.4).
- Reception facilities for oily waste are required in **all ports** in respect of oily bilge waters and other residues which cannot be discharged in accordance with regulation 15 *[which requires that effluent is filtered to 15ppm oil, discharged while on route etc., and not containing concentrations of chemicals hazardous to the marine environment]* (38.2.5)
- Such facilities must be sufficient to receive **oily bilge waters and other residues** that cannot be discharged in accordance with regulation 15 from **all ships that may be reasonably expected to call at such ports or terminals** (38.3.5)

Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk

Regulation 18.1 – The Government of each Party to the Convention undertakes to ensure the provision of reception facilities according to the needs of ships using its ports, terminals or repair ports as follows:

- **ports and terminals involved in ships' [Bulk NLS] cargo handling** shall have adequate facilities for the reception of residues and mixtures containing such residues of **noxious liquid substances resulting from compliance with this Annex**, without undue delay for the ships involved.
- **ship repair ports undertaking repairs to NLS tankers** shall provide facilities adequate for the reception of residues and mixtures containing noxious liquid substances for ships calling at that port.

Regulation 13 sets out requirements for the control of discharges of residues of noxious liquid substances i.e. any residues remaining after the cargo has been unloaded. MARPOL and the related International Bulk Chemical Code (IBC Code) separates bulk liquid chemicals into three categories – X, Y and Z, based on their marine pollution hazard. A tank that has held a Category X (highest marine pollution hazard) substance must be 'prewashed', and the residues must be discharged to shore before the ship departs. In some circumstances where Category Y or Z cargo has not been unloaded in accordance with appropriate procedures or for high-viscosity or solidifying Category Y substances, prewashes and discharge of residues to shore may also be required. In these cases, discharge to shore may be at the unloading port or another port provided that it is confirmed in writing that an adequate reception facility is available.

Annex IV Regulations for the Prevention of Pollution by Sewage from Ships

Regulation 12.1 – The Government of each party to the Convention, which requires ships operating in waters under its jurisdiction and visiting ships while in its waters to comply with the requirements of regulation 11.1 undertakes to ensure the provision of facilities at **ports and terminals** for the reception of **sewage**, without causing undue delay to ships, adequate to meet the needs of the ships using them.

Annex V Regulations for the Prevention of Pollution by Garbage from Ships

Regulation 8.1 – The Government of each Party to the Convention undertakes to ensure the provision of facilities at **ports and terminals** for the reception of **garbage, without causing undue delay** to ships, and **according to the needs of the ships** using them.

Annex VI Regulations for the Prevention of Air Pollution from Ships

Regulation 17.1 – The Government of each Party to the Protocol of 1997 undertakes to ensure the provision of facilities adequate to meet the:

- needs of ships using its **repair ports** for the reception of **ozone depleting substances** and equipment containing such substances when removed from ships.
- needs of ships using its **ports, terminals or repair ports** for the reception of **exhaust gas cleaning residues** from an approved exhaust gas cleaning system when discharge into the marine environment is not permitted under regulation 14 [*i.e. in enclosed ports, harbours and estuaries unless documented that there is no adverse impact*]

Regulation 17.2 recognises that reception facilities for exhaust gas cleaning system residues and ozone depleting substances may be impossible in some ports. If a particular port or terminal of a Party is remotely located from, or lacking in, the industrial infrastructure necessary to manage and process those substances referred to in Regulation 17.1 and therefore cannot accept such substances, then the Party shall inform the Organization of any such port or terminal so that this information may be circulated to all Parties and Member States of the Organization for their information and any appropriate action. Each Party that has provided the Organization with such information shall also notify the Organization of its ports and terminals where reception facilities are available to manage and process such substances.

Refer to resolution MEPC.199(62), 2011 Guidelines for reception facilities under MARPOL Annex VI.

Special provisions in MARPOL for Small Island Developing States (SIDS)

IMO has recognised the unique challenges that SIDS experience in providing adequate reception facilities for ships waste. This was first recognised in 2000 in IMO Resolution MEPC.83(44) *Guidelines for ensuring the adequacy of port waste reception facilities*, then given a firm legal basis through MARPOL amendments in 2011.

SIDS may satisfy waste reception facilities regulations through regional arrangements when, because of those States' unique circumstances, such arrangements are the only practical means to satisfy these requirements.

Parties participating in a regional arrangement shall develop a Regional Reception Facilities

Plan, taking into account the guidelines developed by the Organization. The relevant guidelines are found in IMO Resolution MEPC.221(63). SPREP is currently in the process of reviewing the Pacific regional arrangements that existed since 2002¹ to update the data and ensure the new IMO guidelines are met.²

Noting that as an overseas territory of France, Tahiti is not a SIDS, MEPC.221(63) allows for non-SIDS to participate in a Regional Reception Facilities Plan but they should do so only so far as their ports may be Regional Waste Reception Centres where reception facilities are adequate.

Meaning of 'Adequate'

The International Maritime Organization provides guidance on what constitutes 'adequate' waste reception facilities in Resolution MEPC.83(44) Guidelines for Ensuring the Adequacy of Port Waste Reception Facilities. Adequate facilities are defined as those which:

- mariners use;
- fully meet the needs of the ships regularly using them;
- do not provide mariners with a disincentive to use them; and
- contribute to the improvement of the marine environment.

The facilities provided by the port must:

- meet the needs of the ships normally using the port; and
- allow for the ultimate disposal of ships' wastes to take place in an environmentally appropriate way.

Where facilities are provided, it is important to remember that adequacy can be compromised by poor location, complicated procedures, restricted availability and unreasonably high costs for the service provided. These are all factors which may provide a disincentive for the use of reception facilities.

The Guidelines also provide a sample assessment template that can be used to assess adequacy. The gap analysis undertaken in Papeete uses this template as a basis.

Adequacy according to "the needs of ships normally using the port" is an important concept to recall when using the Guidelines and assessment template. It will not be necessary in all ports to fully meet every item in the assessment template for all types of waste. The Guidelines are intended to be applied as is practical for a particular port, and there is no need to cater for wastes that are unlikely to be produced by ships arriving in that port.

IMO has implemented an international reporting mechanism for allegations of inadequate waste reception facilities whereby ships' Masters submit a standard form (MEPC.1/Circ.834 15 April 2014) containing details of the allegation to the flag State and port State.

1 Nawadra et al. (2002) *Improving ships waste management in Pacific Islands ports*. SPREP, Apia.
2 SPREP Circular 13/79

Good Practice

IMO has developed a *Guide to Good Practice on Port Reception Facilities* intended to be a practical users' guide for ships' crews who seek to deliver MARPOL residues and wastes ashore, and for port reception facility providers who seek to provide timely and efficient port reception services to ships (MEPC.1/Circ.834 15 April 2014).

Although this Guide has no legal force, it provides a useful starting point outlining how those on both ends of the gang-plank can work together to facilitate the transfer of ships waste to shore.

The Guide contains advice on good practice to ship masters, owners and operators including the incorporation of logistical and commercial arrangements to allow for waste delivery to shore, the minimization and management of waste on board, and the provision of advance notification of the need to discharge waste prior to arrival in port.

Advice provided to port reception facility operators is that good practice includes communication of relevant information about available services and costs, and implementing procedures that facilitate integration with shipboard and landside waste management practices. It is also recommended that arrangements are in place to receive segregated garbage (consistent with ISO 21070) and to comply with relevant quarantine and hazardous substances requirements.

The Guide also advises that waste reception should be provided at a reasonable cost. In addition, the Comprehensive Manual on Port Reception Facilities (1999) provides useful information on developing a waste management strategy, operation of reception facilities (including funding mechanisms), coordination of port and ship requirement, and options for enforcement and control.

National implementation of MARPOL waste reception facilities requirements

France, with regard to the French constitution of V République, ratifies international agreements, including MARPOL, (*spirit resumed in the French Polynesia organic law of 2004 – article 14 3 ° France is competent in foreign policy*) which are then introduced in internal law.

In internal law, in conformance with its autonomy, French Polynesia implemented in particular the Law of Country (PJ) of 23 January 2012 relative to the legal protection of the Polynesian maritime space against pollution resulting from ships and diverse machines. The voluntary or accidental pollution by hydrocarbons has associated penalties (MARPOL Annex I) as well as penal measures concerning Annexes II, III, IV and V of MARPOL.

French Polynesia has also implemented Country Law No.2013-12 of 06 May 2013 (regulating, for protection purposes in matters of biosecurity, the introduction, import, export and inter-island transport of living organisms and their by-products). This legislation has been in place since early 2014 and is applied to ships' waste in Papeete.

Despite the new implementation of this legislation, arrangements have been put in place for the removal of quarantine waste from ships at Papeete port, which seem to be working extremely well. To assist with this implementation, the Food Quality and Veterinary Action Department have prepared letters that are provided to every ship arriving at Papeete port informing them of the new legislation and what ships' need to do in order to meet the new legislation.

The table at Appendix C shows additional information on permitted and prohibited discharges in Papeete with is provided to ships as part of the above communications. This table is based on the table produced by the IMO for Annex V waste.

Gap Analysis Procedure

Preparation

The Secretariat for the Pacific Regional Environment Programme (SPREP) worked with the Delegation for International, European and Pacific Affairs (Pacific Division) in Papeete to assist in organizing the gap analysis team's visit to Papeete. The Delegation organized meetings with the local Port Authority, the Department of Environment, the Food Quality and Veterinary Action Department, the Polynesian Department of Maritime Affairs, the service provider that services ships' in Papeete, the waste treatment facility, the local recycling facility and shipping agents that service Papeete.

In addition, the Australian Maritime Safety Authority (AMSA) contacted the Port Authority to obtain information on shipping data at Papeete port and to obtain information on the port waste management plan.

In addition, facilitated through the Delegation, SPREP also requested information from shipping agents servicing Papeete as well as the service provider for the region.

The following documents and websites were reviewed:

- Port Autonome Papeete
- Pacific Ocean Pollution Prevention Program: Improving Ships' Waste Management in Pacific Island Ports
- Resolution MEPC.221(63) *2012 Guidelines for the Development of a Regional Reception Facilities Plan*
- Resolution MEPC.83(44) *Guidelines for Ensuring the Adequacy of Port Waste Reception Facilities*
- The International Convention on the Prevention of Pollution from Ships (MARPOL)
- 2012 Guidelines for the Implementation of MARPOL Annex V (resolution MEPC.219(63))

Port Visit

The gap analysis team was comprised of a representative from SPREP, Mr Scott Willson, one representative from AMSA, Ms Annalisse Sly and a representative from the French Polynesian International Relations (IR) department, Mr Maurice Lau poui Cheung. The gap analysis team conducted on-site work in Papeete from 12-16 May 2014. The team held the following meetings:

- Meeting with the Harbour Master and the Technical Director at the Port Autonome de Papeete to discuss waste management at the port and to gain a greater understanding of the port operations related to ships waste. This meeting was followed by a tour of the port with the harbor master to look at access for service providers to the berths, security, waste receptacles, signage and the layout of the port.
- The team also met with the Department of Environment, Food Quality and Veterinary Action Department and the Polynesian Department of Maritime Affairs to gain an understanding of the different legislation applied in Tahiti and specifically in Papeete in relation to waste service providers, waste disposal sites, quarantine laws and procedures and the application of MARPOL.

- The team also met with the service provider for ships waste in Papeete and was able to view the site where domestic ship waste, segregated waste from international ships and treated biosecurity waste is collected and transported for disposal. This site is also where biosecurity waste international ships is treated.
- The site where recyclable waste is segregated and prepared for exporting was also visited.
- In addition, the team also met with the International Maritime Agency which is the primary shipping agent that services ships in Papeete.

Reporting

Report provided to SPREP for review as part of the gap analysis team 4 July 2014

Report provided to Papeete agencies for review 11 July 2014

Report finalised 3 September 2014

Gap Analysis Outcomes

Numbering and wording of questions throughout this section reflects that used in IMO Resolution MEPC.83(44).

A. Contact Details and Port Description

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Port Autonome Papeete representatives

Mr François Chaumette,
Commandant De Port (Harbour Master),
Port Autonome, Papeete

Mr Boris Peytermann,
Directeur Adjoint Technique,
Port Autonome, Papeete

Government representatives

Gladys Wong Foo,
Deputy Manager,
Polynesian Department of Maritime Affairs

Dr Valerie Roy,
Veterinaire Officielle,
Food Quality and Veterinary Action Department

Mr Gabriel Sao Chan Cheong,
Directeur,
Direction de L'Environnement

Service Providers

Mr Jean-Paul Peillex,
Director General,
Technival (Waste removal including quarantine waste)

Mr Benoit Layrle,
Director General,
Polynesian Environment Society (Recycling)

Shipping Agent

Ms Maeva Siu,
Managing Director,
International Maritime Agency

Mr Thierry Charrier,
Manager,
Papeete Seairland Transport/President,
Shipping Agencies Union.

Port and surrounds

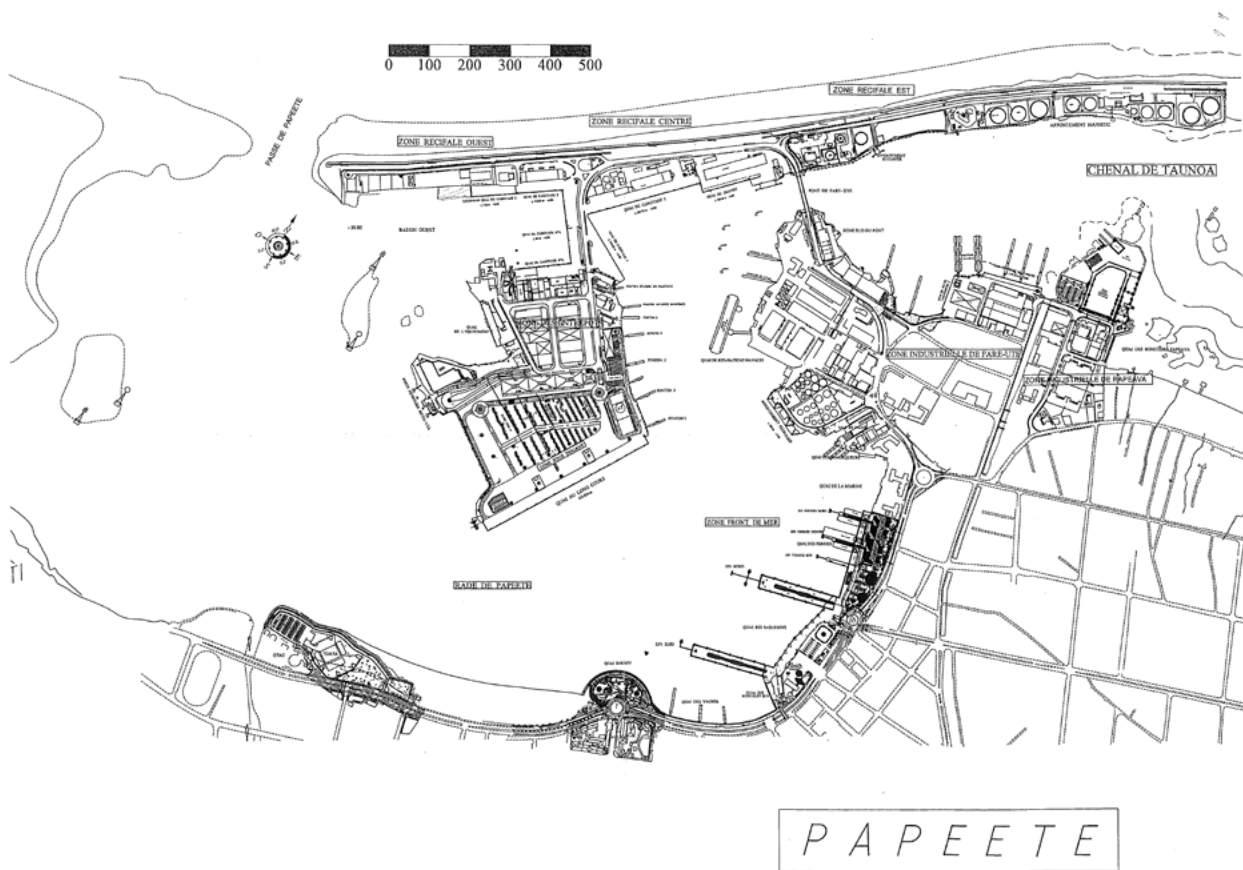


Figure 1: Papeete port

French Polynesia, a territory of France, has 118 islands and atolls which are grouped into 5 archipelagos scattered across 3,200 km in the South Pacific Ocean midway between America and Australia. Only 65 of the islands are inhabited with the most inhabited island being Tahiti.

Papeete is the capital of French Polynesia, located on the island of Tahiti, in the administrative subdivision of the Windward Islands. Papeete is the primary centre of Tahitian and French Polynesian public and private governmental, commercial, industrial and financial services, the hub of French Polynesian tourism and a commonly used port of call.

The Port Authority of Papeete was created on January 13th 1962, the year when the “Centre d’Expérimentation du Pacifique” settled in the island of Moruroa, located in the Tuamotu Archipelago of French Polynesia. In 1997, with the statutory reform, the PAP became an “Etablissement Public à Caractère Industriel et Commercial” (EPIC) and benefited from self-governance. In 2002, the Port Authority of Papeete celebrated forty years of playing a crucial role in economy for French Polynesia.

The port is quite unique due to the close proximity of the port to the airport. Port and airport traffic movements need to be coordinated to ensure that there are no incidents between ships and aircraft.

Papeete’s main exports include coconuts (oil and husk); pearls; and shark meat. Its main imports are fuels, food products, and equipment.

The port has a number of berths including those for bunkering (oil and gas), container ships and cruise ships. The port also caters for fishing vessels and yachts. In addition, the port also has a floating drydock within the port limits.



Figure 2: Cargo berth



Figure 3: Cruise berth

B. Summary of Waste Reception Facilities Provided

Table 1 – Summary of waste reception facilities in port of Papeete

Type of Waste	Can Waste be Received? Yes or No	Type of Reception Facility (Fixed, Road Tanker or Barge)	Any Limitations in Capacity?	Service Provider
Oil Tankers: Oily tank washings or oily ballast water	No	N/A	N/A	N/A
All ships: oily bilge water, sludges, used lube oils	Yes	Fixed	Only limitation is the storage capacity which is 150m ³ *	Technival
Chemical tankers: NLS	No	N/A	N/A	N/A
Sewage	Yes**	Truck	N/A	Technival
Garbage – Domestic vessels	Yes	Truck	N/A	Technival
Garbage – recyclables	Yes	Truck	N/A	Polynesian environment Society
Garbage – Fishing gear	Yes	Truck	N/A	Technival
Quarantine Waste – all garbage from international vessels	Yes	Truck	N/A	Technival
Ozone Depleting Substances	No	N/A	N/A	N/A
Exhaust gas cleaning system residues	No	N/A	N/A	N/A

*the port has noted that this limit has never been exceeded as the tanks get emptied on a regular basis and transported to a recycling company that organize export of the waste by ship to New Zealand (NZ) every 6 weeks. NZ buy this oil for 5000 XFP per m³.

** Sewage of animal origin from international waste is currently prohibited by the Rural Development Service and sewage of human origin from international waste is prohibited by the Health Directory.

C. Demand for Waste Reception facilities

This section examines various aspects of demand for waste reception facilities.

Table 2 – Shipping data from Papeete port in 2012

	Container	Cruise	Fishing	Oil	Gas	Yacht	Totals
January	17	8	11	1	1	8	46
February	15	6	11	1	1	8	42
March	18	9	13	2	1	7	50
April	19	8	12	1		8	48
May	15	7	10	10	1	9	43
June	19	6	11	1	1	8	46
July	13	7	9	2		7	38
August	17	8	9	1	1	9	45
September	28	9	11	1	1	8	58
October	15	9	12	1	1	7	45
November	10	8	10	1	1	7	37
December	11	6	9	1	1	8	36
Totals	197	91	128	14	10	94	534

*Note exact figures for each month may not be accurate however the yearly totals for each ship type is accurate.

Oily waste:

All ships potentially have oily waste on board e.g. used lubricants, oily sludge resulting from bilge water filtering, oily rags and oily bilge water.

Oil sludge generation depends on the quality of fuel. It has been estimated that sludge is generated at approximately 1-2% of daily Heavy Fuel Oil consumption^{3,4} and 0.5% of Marine Diesel Oil consumption⁵.

Ships larger than 400GT are required by MARPOL Annex I to have a sludge tank, so most large ships will be able to store a certain quantity of sludge on board prior to incineration or disposal.

Oil tankers generate particular types of oily waste, particularly cargo slops and oily ballast water. Papeete Port received 14 oil tankers in 2012.

Information from agents:

Based on discussions with the shipping agent, it was determined that cruise ships are the most common type of ship requesting this type of waste for disposal. On average, cruise ships request 11m³ of oily waste be discharged per visit. It is very rare that a container ship will request the removal of this waste.

3 Le Calvez, P. (2006) Oily waste management onboard of ships. Lecture available at www.afcan.org/dossiers_techniques/gestion_dech_huileux2_gb.html

4 Palabiyik, H. (2003) "Waste Management Planning for Ship Generated Waste", *Journal of Naval Science and Engineering*, Volume 1, Number 2, July, 151-159.

5 Palabiyik H (above, n2).

Noxious Liquid wastes:

There is currently no known demand for the discharge of NLS at Papeete port. As chemical tankers do not call at Papeete it is not expected that there will be demand for this service in the future.

Sewage:

All ships potentially have sewage on board. The amount varies with the number of people on board, so cruise and larger naval ships will have large amounts of sewage, whereas cargo ships with a small crew will have much smaller amounts. This is particularly relevant in Papeete as the ship types range from cruise ships to fishing vessels, with varying degrees of waste generated.

MARPOL provides for different options for onboard storage and treatment of sewage, which affect where the ship will be able to discharge sewage.

Ships with sewage treatment plants will be able to treat their sewage and discharge liquid effluent at sea. There may be a need for these ships to discharge sewage sludge in port, depending on the system.

Ships without IMO-approved sewage treatment plants may discharge disinfected (e.g. chlorinated) sewage or raw sewage at sea beyond 12nm. The need to discharge sewage to shore will vary depending on the size of holding tanks and the length of a vessel's stay in port.

Information from agents:

The discharge of sewage of animal origin from international waste is currently prohibited by the Rural Development Service and sewage of human origin from international waste is prohibited by the Health Directory (see Appendix 2). However, if this waste was to be received, the local service provider, Technival, would have to capacity to provide this service. When discussing the option of receiving sewage from ships, the shipping agents expressed concerns with the collection of this waste as the waste water treatment system infrastructure in Papeete is not able to process the amounts of sewage generated by ships. However, the local waste treatment company, Technical has a black water treatment system and has advised that they can treat waste from ships using their onsite black water treatment system. The service provider currently services the local community with septic arrangements. However, licensing associated with the treatment of sewage from human origin from an international source would need to be reviewed. The shipping agents also advised that to date there has been limited demand for this service, although it is unclear if this is due to ships not needing the service or the communication to the ships that this service is not available. The only demand for this service has been from foreign military ships.



Figure 4: Service provider (Technical) black water treatment facility

Garbage:

All ships will have some garbage on board. The amount and type of garbage will vary depending on the number of persons on board, and depending on the type of ship. Some particular examples:

- Cruise ships – very large amounts of domestic garbage due to the large number of persons on board. Food wastes and food and beverage packaging will feature. Medical wastes and certain small hazardous items (e.g. batteries, aerosol cans, photo processing chemicals) etc. may be present in larger quantities than on a cargo ship.
- General cargo– smaller amounts of domestic garbage, but garbage such as dunnage and other cargo-related waste might be more significant.
- Tankers – similar domestic garbage as for general cargo ships, but dunnage and other cargo packing materials probably not an issue.
- Fishing vessels – Damaged nets, lines and other fishing gear in addition to domestic garbage.

Information from agents:

The main waste that is removed from ships in Papeete Port is garbage, both quarantine and domestic. The Food Quality and Veterinary Action Department has recently implemented biosecurity legislation for the collection and treatment of quarantine waste. The implementation of this legislation has proven to be successful, with ships being able to easily discharge quarantine waste at the port.

This waste is collected and treated using microwave technology by the local waste service provider (Technival) who have a contractual arrangement with Food Quality and Veterinary Action Department to collect and treat this waste. This waste is treated onsite at the service providers quarantine treatment facility with the by-product of this process being disposed of at the local landfill.

The main ships requesting the discharge of this waste at the port are container ships, yachts and cruise ships. On average cruise ships will request to discharge up to 60m³ garbage per visit. This waste is made up of both wet waste (food stuffs/biosecurity waste) and dry wastes (packing materials, recyclables, dunnage etc.). To date there have been no requests for the removal of medical wastes, although if this was required this could be facilitated.

Theoretical estimates of garbage quantities

Estimates were made of the theoretical amount of garbage arriving in Papeete (Table 3) based on an assumption of 2kg per person per day for non-cruise ships and 3kg per person per day for cruise ships⁶. It was also assumed that ships would spend an average of 6-8 days at sea prior to calling at Papeete⁷, and the number of ship visits was calculated from the data supplied by the Port Authority (Table 3). For the purposes of these calculations, yachts have been removed from the annual visits based on these types of ships not having an average of 25 people on board the ship.

Table 3 – Calculation of estimated garbage quantities

	Avg pax onboard	Avg days at sea prior to port call	Annual visits	kg.pax.day generated	kg generated per ship visit	Annual mass generated (kg)
Non-cruise	25	5	349	2	250	87,250
Cruise Liners	2000	5	91	3	30,000	2,730,000
					Total:	2,817,250

These sorts of calculations can be useful in estimating quantities of waste, which in turn can assist in planning reception facilities for this waste stream.

Annex VI wastes:

No Annex VI wastes are discharged at the port of Papeete. There is not the infrastructure to receives these wastes and nor has there been the demand that would generate the development of this infrastructure.

6 Delfosse, S., McGarry, J. & Morin, T. (2010) Ship Generated Waste Disposal in the Wider Caribbean Region. www.wpi.edu/Pubs/E-project/Available/E-project-121610-185147/unrestricted/Team5_USCG1_IQP_FINAL.pdf

7 An estimate of 3 days was used in the SPREP Regional Reception Facilities study in 2002.

D. Assessment of Waste Reception Facilities

D1. Oily Wastes

D1-1

Where is oily waste disposed of?

- ~~Separation of oil and water then recycling~~
- ~~Land disposal~~
- Recycled** – the oily waste is discharged from the ship to a holding tank within the port. When the storage tanks reach their limit (1000m³) they are emptied and exported to NZ for recycling and reuse.
- ~~Incineration~~
- ~~Ships to a holding tank prior to being pumped out~~
- ~~Directly from the ship to a mobile facility~~
- ~~other~~

D1-2

Are there any restrictions on receipt or collection of oily waste by service providers?

The only limitations that occur are related to the size of the storage tanks, although as these tanks get emptied regularly, this has never presented a problem in receiving this type of waste. The service provider stated that they can collect 50m³ per day from a ship and transport this to the storage tank at the port.

D1-3

Are oily waste reception facilities available:

- 24/7***
- ~~24/5~~
- ~~9-5/7~~
- ~~9-5/5~~
- ~~Other~~

*Although the service provider can attend 24 hours a day 7 days a week costs associated with this service alters depending on when the service is requested. Costs are 50% more on a Sunday, 25% more at night, 25% more on a Saturday, with additional costs also charged on public holidays.

D1-4

Is prior notice for receipt of oily waste required:

- ~~0 hours~~
- ~~12 hours~~
- ~~24 hours~~
- 48 hours** – and then confirmation 24hrs prior to arrival

D1-5

Is the oily waste receipt service available:

- ~~• at no cost~~
- ~~• at a cost incorporated into standing port use charge~~
- at a cost charged in addition to other services

D1-6

Is a waste collection service available

- at all berths
- ~~• at most berths~~
- ~~• at only one berth~~
- ~~• to vessels anchored within the port~~
- ~~• to vessels anchored outside the port~~
- ~~• other~~

Assessment of the provision of waste reception facilities for oily waste:

1 – ~~Less than Satisfactory~~ 2 – Satisfactory 3 ~~Fully meets the requirements~~

Comments:

The assessment of the provision of waste reception facilities for oily waste is deemed satisfactory as it is satisfactorily meeting the needs of the ships normally calling at Papeete Port. Feedback received during the analysis did show some concern with the monopoly on this service in Papeete, however the costs associated does not seem to be creating a disincentive for ships to use this service. It is suggested that the port undertake to monitor this situation to determine if there are issues with the lack of competition for this service.

D2. Noxious Liquid Substances

There is no provision for the port of Papeete to accept NLS from ships. As there are no vessels importing NLS to Papeete there is no demand for this service.

Assessment of the provision of waste reception facilities for noxious liquid wastes:

1 – ~~Less than Satisfactory~~ 2 – ~~Satisfactory~~ 3 – ~~Fully meets the requirements~~

Comments:

This service has been deemed as fully meeting the requirements as there is no demand for this service at the port of Papeete and there is no known chemical tanker traffic at the port that would require this service.

D3. Sewage

D3-1

Where is sewage disposed of?

- **Directly from the ship to a mobile facility** – this type of waste can be collected by the local service provider if required, noting that sewage from international ships is prohibited in Papeete.
- ~~Ships to a holding tank prior to being pumped out~~
- ~~other~~

D3-2

Are there any restrictions on receipt or collection of sewage by service providers?

Sewage from international ships is prohibited in Papeete.

D3-3

Are sewage reception facilities available:

- **24/7** – noting additional costs associated with collection outside of normal business hours
- ~~24/5~~
- ~~9-5/7~~
- ~~9-5/5~~
- ~~Other~~

D3-4

Is prior notice for receipt of sewage required:

- ~~0 hours~~
- ~~12 hours~~
- ~~24 hours~~
- **48 hours** with 24 hours confirmation

D3-5

Is the sewage receipt service available:

- ~~at no cost~~
- ~~at a cost incorporated into standing port use charge~~
- **at a cost charged in addition to other services**

D3-6

Is a waste collection service available

- **at all berths**
- ~~at most berths~~
- ~~at only one berth~~
- ~~to ships anchored within the port~~
- ~~to ships anchored outside the port~~
- ~~other~~

Additional information:

While the service provider in Papeete has advised that they can accept this waste, it is not a service that is promoted or currently used at Papeete port, noting that sewage from international ships is currently prohibited. If this service was to be provided it would need to be treated at the Technival facility rather than the town facility and would require agreement by the Rural Development Service and the Health Directory. It is suggested that this option be explored further, and if feasible, information on this service be provided to the shipping agents to ensure that ships calling at Papeete port can discharge sewage/black water if required.

Assessment of the provision of waste reception facilities for sewage:

~~1 – Less than Satisfactory~~ 2 – Satisfactory ~~3 – Fully meets the requirements~~

Comments:

The assessment of the provision of waste reception facilities for sewage has been assessed as satisfactory as there is currently no demand for this service. However, it is suggested that this service be investigated to enable this service to be provided to ships calling at Papeete port if required.

D4. Garbage Disposal – On Shore

D4-1

Where is garbage disposed of?

- **Local government dump/landfill** – domestic ship waste, segregated international waste and treated biosecurity waste
- **Transfer station** – all waste is first processed at a transfer station and some wastes, such as recyclable waste and batteries, is transported to NZ (or sometimes Asian ports) for treatment, recycling, reuse or disposal.
- ~~Materials recycling facility~~
- ~~other~~

D4-2

Where are quarantine wastes disposed of?

- ~~incinerator~~
- **sterilization** – using microwave technology. After treatment the waste is disposed of in normal landfill
- ~~deep burial~~
- ~~normal landfill~~

Are all quarantine waste receptacles

- **secure from interference** – Yes, sealed tubs are placed on the ship in order to collect the waste; bags of waste are placed in the boxes; the boxes are sealed, tagged, photographed; and then removed from the ship to be transported to the facility. This process is generally supervised by a biosecurity officer.

- **permanently labelled** – No, as not kept on the berth
- **securely covered** – Yes
- **banded** – No, as not kept on the berth
- **stored in a refrigerated facility** – Yes, this waste is kept in cold storage prior to being treated. The cold storage is kept at 4oc, can hold up to 3 tonnes of waste and can be retained for 1 week prior to treating.
- **protected from birds or other animals** – Yes, as collected and transported in secured bins

D4 continued. Garbage Disposal – Ship to Shore

D4-3

Are there any restrictions on receipt or collection of garbage wastes?

No

D4-4

Are garbage reception facilities available:

- **24/7** – noting additional costs associated with collection outside of normal business hours
- ~~24/5~~
- ~~9-5/7~~
- ~~9-5/5?~~
- ~~Other~~

D4-5

Is prior notice for receipt of garbage required

- ~~0 hours~~
- ~~12 hours~~
- ~~24 hours~~
- **48 hours** – with 24 hour confirmation

D4-5

Is the waste receipt service available

- ~~at no cost~~
- ~~at a cost incorporated into standing port use charge~~
- **at a cost charged in addition to other services** – quarantine waste is charged at double the rate of regular garbage (which was noted by the Food Quality and Veterinary Action Department as some ships do not discharge waste based on these costs, causing concern as to where the waste is discharged).

D4-6

Is a waste collection service available

- at all berths
- ~~at most berths~~
- ~~at only one berth~~
- ~~to vessels anchored within the port~~
- ~~to vessels anchored outside the port~~
- ~~other~~

Additional Information:

As mentioned, the service provider is able to treat quarantine waste using microwave technology which can treat 150kg of waste per day. The by-product of this treatment is disposed of at normal landfill.

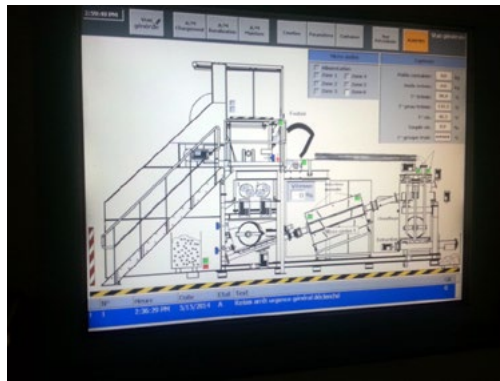


Figure 5: Schematic of the quarantine treatment equipment using microwave technology



Figure 6: all waste is collected in these tubs, sealed and tagged prior to treatment



Figure 7: the by-product of the quarantine treatment process

The service provider has a standard request form that is provided to ships 48 hours prior to their arrival requesting details of the waste that needs to be removed. A completed copy of this form is provided to the Food Quality and Veterinary Action Department, the port and the service provider. The delivery receipt is signed by the service provider, the ship and the waste disposal site. Once all forms are signed, these are provided to the agent to provide to the ship. This is similar to other waste streams collected where the invoice and receipt are provided to the agent to provide to the ship.

The service provider has a license with Rural Development Service (waste from animal, land and plant origin) and the Health Directory (medical waste) to collect the waste and a license to treat the waste. These licenses are renewed every 3 years, with an inspection of the facility being carried out annually. All data produced by the treatment facility (microwave) is automatically downloaded onto a shared site where the Food Quality and Veterinary Action Department can review daily results.

Once normal waste from ships (non-quarantine waste) has been collected by Technival it is transferred either to the local landfill, operated by the Polynesian Environment Society, or to the local recycling plant for sorting and exporting, also operated by this Society. The Polynesian Environment Society manages 6,000 tonnes of recyclable waste per year. Of this 4,000 tonnes is either exported to New Zealand, Malaysia or Thailand. Some waste, such as aluminum cans, can be sold. As such, the Polynesian Environment Society has in place an arrangement with the receiving country to cover the costs associated with the transport of the material as payment for the materials that can be sold. To ensure that the Polynesian Environment Society have a mechanism for removing all recyclable waste from Papeete (not just that which can be sold) this arrangement also provides for all recyclable waste to be received at no additional cost.

The Polynesian Environment Society provides discounts to the cost of recycling to the local community if waste is sorted and undertake a number of communication strategies to encourage recycling in the local community. There are no laws in Tahiti requiring the recycling of waste, so the effective communication strategies of the Polynesian Environment Society are relied upon to encourage this practice locally. The recycling initiative currently is partly funded by the government, however this funding is coming to an end. Therefore, the recycling facility will need to employ a number of strategies to cover the costs of the recycling process.

Glass is also recycled in Papeete and used for gravel in the roads. In addition, oil drums are compacted and exported out of Tahiti as there are no facilities on the island to recycle these drums.

During discussions with government agencies on the above processes, concerns were raised with illegal dumping of garbage in Papeete, but parties were uncertain if this was related to ships waste.



Figure 8: Plastic bottles and aluminium cans waiting to be exported



Figure 9: Recycling sorting facility



Figure 10: Recycling sorting facility



Figure 11: Oil drums being compacted for export

Assessment of the provision of waste reception facilities for garbage:

~~1—Less than Satisfactory~~ ~~2—Satisfactory~~ 3 – Fully meets the requirements

Comments:

The assessment of the provision of waste reception facilities for garbage in Papeete is assessed to fully meet the requirements. This service is available to ships when required and all garbage can be received. In addition the segregation undertaken by crew on board the ships is maintained and appropriately treated on land.

D4A – Annex VI wastes

Ozone depleting substances

France is party to the Montreal Protocol, however it is not clear if this has been enacted in French Polynesian legislation. If it is, ODS must be handled and disposed of according to strict procedures set out in this legislation. A licensed technician would need to be engaged to remove the ODS from the ship.

Technival are licensed to remove hazardous waste, however it is uncertain if this includes the removal of ODS, if required. It should be noted that there is currently no known demand for the collection and destruction of these wastes in Papeete.

Exhaust gas cleaning system residues

It is likely that such residues may be handled in the same manner as oil sludge. There is currently no known demand for wastes of this type.

Assessment of the provision of waste reception facilities for Annex VI wastes:

~~1—Less than Satisfactory~~ 2 – Satisfactory ~~3—Fully meets the requirements~~

Comments:

Noting French Polynesia is not presently a party to Annex VI, this assessment has been classed as satisfactory due to the lack of demand for this service, noting that unless there is a demand there is no need to provide this service.

D5. Waste Management System

D5-1

Has a waste management plan been developed and implemented for ship wastes?

Papeete port does not currently have in place a Waste Management System, however it was identified by the port that all maritime agents, ship owners and captains only choose local waste contractors recognised by the Polynesian Ministry of environment for the processing of their wastes. In addition, the port advised that harbor officers, during their duty and pier controls, ensure that all wastes are managed in accordance with the local law in force, particularly for international voyages.

D5-2

Is the Waste Management Plan part of an overall Environmental Management System for the port?

As per D5-1

D5-3

Are marinas and fishing harbours covered by the port EMS or required to develop their own EMS?

Although the port does not have a Waste Management System, marinas in Papeete have been awarded the ecolabel Pavillon Bleu. Pavillon Bleu was created by the French office of the Foundation for Environmental Education. This ecolabel has been identified by the French authorities as a means to educate and motivate local authorities or managers of marinas, so that they take into account the criterion "environment" in their policy of economic and tourism development.

www.pavillonbleu.org/

D5-4

Does the WMP provide a brief summary of the types of wastes received and the collection and disposal facilities/services?

As per D5-1

D5-5

Does the WMP address and provide management objectives for: [see D5-6 to 9 following]

As per D5-1

D5-6

Does the WMP address and provide management objectives for Operations:

As per D5-1

MEPC.83(44) lists several aspects to consider:

Facility management and maintenance –

Signage –

Infrastructure –

Contractual arrangements –

Emergency Response –

Seasonal variations –

Training and education –

Delegation of Responsibilities and Accountability –

Compliance with regulatory conditions, including auditing –

D5-7

Does the WMP address and provide management objectives for Technical Standards:

As per D5-1

D5-8

Does the WMP address and provide management objectives for Environmental Considerations:

As per D5-1

MEPC.83(44) lists several aspects to consider:

Prevention of pollution to surface waters –

Noise emissions, visual impacts and odour emissions –

Special considerations due to surrounding environment (e.g. proximity to wetland or mangrove areas); –

Coastal processes (e.g. extreme tides) –

D5-9

Does the WMP address and provide management objectives for plans for future expansion/ upgrades:

As per D5-1

D5-10

Are contact details held for all waste service providers?

As all shipping agents have their own arrangements with Papeete service providers, these contact details are not kept in a centralised location by the port.

D5-11

Are the service providers licensed/approved as required by legislation?

The Department of Environment hold a listing of all licensed and approved waste providers, although the port does not retain this information.

D5-12

Are a copy of the licenses held on file?

Only by the Department of Environment.

D5-13

Are copies of the licenses for the waste disposal facilities used by the service providers held on file?

Only by the Department of Environment.

D5-14

Have receipts for waste disposal been sighted/copies held on file?

It is understood that receipts for waste disposal are retained by the Department of Environment, however these were not sighted by the analysis team during the visit. Copies of these receipts are not maintained by the port.

D5-15

Are alternative waste service providers or disposal facilities available (e.g. spare drums, waste oil recyclers)?

Yes, noting that this varies depending on the requirements of the ships requesting the service (e.g. only one recycling facility) and there is a primary service provider.

D5-17

Are the details of back-up facilities on file?

These details are retained by the shipping agents and not by the port.

D5-16

Is there a procedure for choosing waste disposal service providers (e.g. list of preferred contractors)?

The port does not have a formal list or arrangements in place for preferred providers. The service provider chosen is the decision of the shipping agent at the time of request, noting that the choice of provider is also dependent on the services being requested.

D5-18

Does the WMP include an emergency response plan?

As per D5-1

D5-19

Is the plan adequate in that it addresses at least the following [emergency response] issues?

As per D5-1

MEPC.83(44) identifies the following aspects to consider:

- Spillage of liquid –*
- Spillage of solids –*
- Leakage of gas –*
- Fire or explosion –*
- Emergency contacts –*
- Other –*

D5-20

Is information recorded on the quantities of each waste stream which are received, date of receipt, disposal contractor and method of disposal or treatment?.

This information is maintained by the shipping agents and not by the port.

D5-21

Are there variations in the quantities of each waste stream received?

- ~~• in any one month (e.g. due to shipping variations)~~
- ~~• in any one year (e.g. due to seasonal effects)~~
- ~~• over a number of years (e.g. due to industry growth)~~
- **Unsure**, however it could be assumed that as Papeete has a tourist season typically dictating the frequency of cruise ship vessels, quantities of waste discharged at the port would vary depending on the season. As Papeete is moving towards promoting 'all year round' tourism, the variances currently experienced may alter.

D5-22

Is this information analysed on an on-going basis to detect changes in usage (both short term season variations and long term growth or reductions) and assist in formulating future plans?

Analysis of demand and the trends associated with waste reception at Papeete is not currently undertaken by the port.

D5-23

Is ongoing consideration given to changes in demand for waste reception facilities?

As per D5-23

D5-24

Do plans exist for future upgrades [to waste reception facilities]?

Although there are no plans to specifically upgrade waste reception facilities at the port, the location of the recycling transfer (sorting) station which is currently on port land is being considered.

D5-25

Is there an on-going process for reviewing existing facilities and determining changes that may be required to meet adequacy, timing or waste generation demands?

There is no known process for this type of review by the port.

D5-26

Are there provisions for audits against the WMP (at least within 2 years of implementation and thereafter every 3 years?)

As per D5-1

D5-27

Is there provision for periodic review of the WMP?

As per D5-1

D5-28

Are the relevant requirements of the MARPOL, UNCLOS and IMO generally adhered to by the users of the port?

Based on discussions held with the port and other stakeholders during the analysis, all relevant IMO Conventions and domestic legislation are generally adhered to.

D5-29

Is there information on the state and local regulations regarding waste management, pollution of water, pollution of air, noise emissions, discharges to sewer, storage of dangerous goods etc (please list legislation if known):

It is understood that this information is not maintained in a centralised area by the port.

D5-30

Is there information on waste minimisation hierarchy (i.e. avoid/ reduce/ reuse/ recycle/ reprocess)?

It is understood that this information is not maintained in a centralised area by the port.

D5-31

Is an open and co-operative relationship maintained between the port authority and the relevant authorities and agents?

Based on discussions held during the analysis it appears that there is an open relationship between the port and other relevant agencies, however, all agencies could work more closely in relation to monitoring demand and determining trends in waste reception.

D5-32

Are there channels of communication and consultation with relevant organisations to ensure that particular changes in demand are considered in providing waste reception facilities?

As per D5-31

D5-35

Do training programmes for port employees (both of the port authority and users) include a section on waste management and the facilities provided at the port?

This information was not collected from the port.

D5-34

Is there a section in the WMP or a separate document which is included in agreements with port users and specifies requirements for the usage of port waste reception facilities?

This information was not collected from the port.

D5-35

Is clear and visible signage for waste reception facilities present and includes:

- **advice at initial vessel contact point of waste reception facilities – no**
- **direction to receptacle or disposal point location – no**
- **labelling of all receptacles and disposal points – no**
- **contact numbers – no**
- **emergency procedures – no**
- **translation into other languages as required – no**

D5-36

Are information sheets/leaflets available for each waste reception facility?

No, all information is provided by the shipping agent,

D5-37

How is information on waste reception facilities conveyed to ships?

This information is provided to the ship by the shipping agents.

Assessment of the waste management system:

1 – Less than Satisfactory 2 – Satisfactory 3 – Fully meets the requirements

Comments:

Based on the above analysis it is determined that this area of waste management is less than satisfactory. It is suggested that Papeete port could benefit from the implementation of not only a waste management system, but in particular, a waste management plan.

To have information on the management of waste from ships centralised at the port means that the agency that is the interface between land services and the ship has a broad understanding of every aspect of this service and can therefore maintain, review and tailor this service to the needs of the ships calling at the port. In order to maintain such data in a centralised place, it is essential that all relevant agencies work together to provide updated information to inform a waste management plan. This can then result consistent and up to date information being provided through the various mediums to the ship (pre – arrival berthing information, communications between ships and agents etc.)

E. Assessment of adequacy of service

Prior to arrival at Papeete no responses were received from shipping agents. However, based on discussions had with the shipping agents during the visit, the following information has been provided.

Why ships might or might not chose to deliver waste to shore in Papeete

- ships may genuinely not have waste to discharge at the port
- ships may not request this as Papeete is seen as a small port in the region
- the costs associated with discharge may not be desirable
- segregated waste can be maintained and treated – creating an incentive to continue this practice and discharge at this port
- there are no restrictions to service

Difficulties making arrangements

- no issues were raised with the process of making arrangements for the removal of waste

Overall satisfaction

- generally satisfied with the service being provided
- was concerned with collection of sewage waste, if this was to be undertaken, as the Papeete town infrastructure could not manage the quantities landed by ships
- felt that there was be a monopoly in the service provided

Conclusion – Gaps and Opportunities

Based on the demand of ships calling at Papeete port and the waste reception services provided, it can be determined that Papeete is, overall, providing an adequate service to ships seeking to discharge waste at this port. In addition, despite the French Polynesian biosecurity legislation only being implemented recently, the processes that have been established with the local service providers, the communications to ships and the appearance of a seamless process for managing this waste is highly commendable.

Another area of particular note is the exceptional work being carried out by the Polynesian Environment Society in the management of recyclable waste. The arrangements that have been implemented to manage recyclable waste are an innovative, proactive and an economically viable way of removing waste from the island that would otherwise be disposed of in the local landfill. It is considered, not only essential that the Society receive the required support to maintain these facilities, but that this information be communicated to other Pacific Islands as an example of how the recycling of waste in the Pacific can be achieved.

To maintain the current services provided to ships and to ensure that ships' needs continue to be met at Papeete port, it is suggested that relevant agencies work together to monitor and adapt elements of the processes associated with the services provided. In addition, it is suggested that a waste management plan be developed to assist in the implementation of waste reception facilities ships calling at Papeete.

Recommendations

1. There is currently relatively good visibility and consultation occurring between agencies within Papeete in relation to ship waste management. However, this consultation would benefit from a formalised structure potentially in the form of a working group, or similar, to ensure strong, effective communication and transparency in the processes associated with waste management. Considerations could include the continuum of the waste management cycle (from the request for service to the disposal of waste on land) and issues such as areas of concern and areas for improvement as well as the ongoing implementation of a waste management plan maintained by the port. An element of this consultation, and ultimately the waste management plan, could be to undertake ongoing monitoring of the demand for the discharge of ships waste, to ensure that the needs of ships calling at Papeete are being met. This could be particularly beneficial with the introduction of the biosecurity legislation. It is suggested the Port Autonome Papeete, the Polynesian Department of Maritime Affairs, the Food Quality and Veterinary Action Department, the Direction de L'Environnement, Technival (Waste removal including quarantine waste), the Polynesian Environment Society (Recycling), the Health Directory, the Rural Development Service and the International Maritime Agency (shipping agent) participate in this group.

2. During the gap analysis process, concerns were raised by shipping agents and government agencies that the costs associated with the discharge of waste, in particular, quarantine waste, could be a disincentive for ships to discharge waste at Papeete. As the costs associated with the discharge of quarantine waste are relatively new, there is an opportunity for a system to be established between relevant agencies (government agencies, shipping agents and service providers) to monitor feedback from ships calling at Papeete on the costs associated with waste reception.
3. Based on information collected during the gap analysis, it is not clear if the prohibition on the discharge of sewage in Papeete by the Rural Development Service and the Health Directory is based on waste being discharged into the town sewage system or if this prohibition is in place due to other considerations. As the local service provider, Technival, has the capacity to treat black water at their onsite treatment facility, it is suggested that the collection of sewage and treatment at this facility is investigated to determine if this service can be provided to ships calling at Papeete, including the appropriate licensing required by the service provider to do so. If this arrangement is deemed suitable, it is suggested that prior to this service being implemented, relevant agencies, in particular shipping agents, investigate the demand for this service from ships, to determine if there is a demand for this service.
4. The infrastructure and processes surrounding the recycling of waste, including ships waste, in Papeete is very advanced. This process has been implemented by the Polynesian Environment Society by establishing relationships with countries in the Asia-Pacific region that can manage recyclable waste. This arrangement ensures that waste is removed from the island, rather than going to landfill, and is undertaken in an economically viable manner. It is suggested that the Polynesian Environment Society work with SPREP to promote this arrangement with other countries in the Pacific region that may also wish to undertake a similar arrangement but are unaware of how the various challenges can be overcome.
5. Noting the innovative, proactive and economically viable procedures of the Polynesian Environment Society in managing recyclable waste, it is suggested that relevant agencies in Papeete work together to ensure that the Society receive the required support to maintain these services and facilities.
6. The Global Integrated Shipping Information System (GISIS) is an online database managed by the IMO to provide relevant up to date information for Governments and shippers on waste reception facilities, amongst other things. As such, it is suggested that the Port Autonome Papeete work with relevant agencies (in particular service providers) to collect the correct information on services available at Papeete and input this to the GISIS system. This can also provide another communication channel for the new biosecurity requirements. The system can be accessed here: <http://gisis.imo.org/Public/Default.aspx>.
7. Information provided during the gap analysis briefly addressed plans for a new international berth, to purely service internationally arriving ships, to be built at Papeete port. To ensure that the reception of waste at this berth can be accommodated for, it is suggested that during the planning and construction of this berth, consideration be given to the removal of waste, in particular quarantine waste, from this berth.
8. To accurately reflect the management of ships waste at Papeete port, it is suggested that the port implement a waste management system, and in particular a waste management plan. It is suggested that this system/plan can be held by the port and contributed to by all agencies involved in waste reception in Papeete (such as service providers, shipping agents and government agencies) This would be particularly beneficial with the new management of quarantine waste.

9. As concerns were raised during the gap analysis process from government agencies that waste may be being discharged illegally, it is suggested that relevant agencies (service providers, government agencies and other relevant stakeholders) work together to determine if this practice is occurring, if this practice is associated with ships' waste, what stakeholders are involved in this practice, and at what point in the collection/disposal process it may be occurring. These investigations could then be used to agree a solution to this issue with all relevant parties involved.
10. It is noted that French Polynesia is not currently a party to MARPOL VI. It is suggested that relevant government agencies aim to review the possible accession to this Annex of MARPOL in the future.
11. The Food Quality and Veterinary Action Department has developed a table providing information to ships on circumstances where Annex IV and Annex V waste can and cannot be discharged in French Polynesia (Appendix 2). As this table is an extremely useful communication tool, it is suggested that the extension of this table to address waste from all MARPOL Annexes be considered. This table could form part of the waste management plan and become a communication tool for the port for ships calling at Papeete.

Papeete Port		
Action	Responsibility	Timeframe
Consider the establishment of a working group between relevant agencies to ensure transparency in the processes associated with waste manage at Papeete and the development of a waste management plan		
Establish a process to monitor costs associated with waste reception at Papeete		
Investigate the provision of waste reception services for sewage at Papeete		
Through SPREP, communicate information on the established procedures for recycling and exporting of recycling waste currently occurring in Papeete		
Ensure the Polynesian Environment Society receive the required support to maintain the waste recycling facilities.		
Utilise the Global Integrated Shipping Information System (GISIS) to record waste reception facilities available at Papeete		
Ensure consideration of waste reception is undertaken during the planning and construction of the new international berth		

Papeete Port		
Action	Responsibility	Timeframe
Develop and implement a Waste Management System/Plan at the port		
Investigate if illegal disposal of waste is occurring in Papeete and determine if this is related to the management of ships waste		
Undertake future consideration of becoming a party to MARPOL Annex VI		
Consider extending the waste discharge table (Appendix 2) to all MARPOL waste streams		

Appendix 1

Agents survey questions

Questions

1. What kinds of ships do you manage?
2. Approximately what number and/or proportion of your ships would request
 - a. Garbage
 - b. Oily waste
 - c. Sewage
 - d. Noxious liquid substances prewash
 - e. Solid bulk cargo residues (dry or contained in hold wash water)
 - f. Ozone depleting substances
 - g. Exhaust gas cleaning system residues
 - h. Antifouling systems waste
 - i. Ballast tank sediments
3. Do you have any views on why your ships might or might not choose to deliver waste to shore in Apia Port?
4. How/with whom do you make arrangements for waste reception?
5. Have you had any particular difficulties in making these arrangements?
6. Overall, are you satisfied with waste reception facilities in Apia Port?

Appendix 2

Simplified overview of the waste provisions of the country law 2013-12 of 6 May 2013 which entered into force on 16 May 2013 (with respect to the MARPOL revised annexes IV and V)

Type of onboard waste	Discharge in Pacific Ocean (Marpol)	Landing on Tahiti island shore
Food waste comminuted or ground (granulometry ≤ 25 mm)	Discharge permitted ≥3 nautical miles from the nearest land, <i>en route</i> and as far as practicable	Biosecurity pass Thermal treatment in approved plant of Tahiti
Grey waters or sewage from kitchen area or spaces containing living animals comminuted or disinfected		Landing prohibited
Food waste not comminuted or ground	Discharge permitted ≥12 nm from the nearest land and as far as practicable, <i>en route</i> (≥ 4 knots) at a moderate rate	Biosecurity pass Thermal treatment in approved plant of Tahiti
Grey waters or sewage from kitchen area or spaces containing living animals not comminuted or disinfected		Landing prohibited
Animal carcasses (split or treated to ensure they will sink immediately)	Discharge permitted as far from the nearest land as possible and <i>en route</i> (≥100 nm from the nearest land and max water dept)	Landing prohibited
All other garbage, including clean packages, incinerator ashes, cooking oil	Discharge prohibited	Landing permitted without biosecurity pass No thermal treatment required
Garbage mixed with or contaminated by food waste or sewage from kitchen or animal transport area	When garbage is mixed with or contaminated by other garbage, the more stringent requirement shall apply	Biosecurity pass Thermal treatment in approved plant of Tahiti

