

**BANK MANAGEMENT RESPONSE TO  
REQUEST FOR INSPECTION PANEL REVIEW OF THE  
PHILIPPINES MANILA SECOND SEWERAGE PROJECT (Loan No. 4019-PH)**

Management has reviewed the Request for Inspection of the Philippines Manila Second Sewerage Project (Loan No. 4019-PH), received by the Inspection Panel on September 26, 2003 and registered on October 1, 2003 (RQ03/1). Management has prepared the following response.



## CONTENTS

<b>Abbreviations and Acronyms .....</b>	<b>iv</b>
<b>I. INTRODUCTION.....</b>	<b>1</b>
<b>II. THE REQUEST.....</b>	<b>1</b>
<b>III. PROJECT BACKGROUND.....</b>	<b>2</b>
<b>IV. ELIGIBILITY .....</b>	<b>15</b>
<b>V. MANAGEMENT’S RESPONSE.....</b>	<b>16</b>

### **Map**

- Map 1. IBRD No. 32767 - Manila Second Sewerage Project (MSSP),  
Request for Inspection

### **Annex**

- Annex 1. Claims and Responses  
Annex 2. September 19, 2003 Letter from the Bank to MWSS  
Annex 3. September 30, 2003 Letter from MWSS to the Bank, with three attach-  
ments  
Annex 4. October 15, 2003 Letter from the Bank to MWSS with Amendments to the  
Loan Agreement – Countersigned by MWSS on October 17, 2003 and by  
the Government of the Philippines on December 10, 2003 and Substituted  
on December 18, 2003 for the Earlier Unsigned Letter  
Annex 5. Chronology of Project Events and Summary of Consultations  
Annex 6. Monitoring Activities and the Multipartite Monitoring Team  
Annex 7. MSSP Supervision Missions

## ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BFAR	Bureau of Fisheries and Aquatic Resources
BOD	Biochemical Oxygen Demand
BP	Bank Procedure
DENR	Department of Environment and Natural Resources
ECC	Environmental Compliance Certificate
EGF	Environmental Guarantee Fund
EIA	Environmental Impact Assessment
EMB	Environmental Management Bureau
EMP	Environmental Management Plan
Government	Republic of the Philippines (the Guarantor)
IBRD	International Bank for Reconstruction and Development (the Bank)
IPN	Inspection Panel
MM	Metro Manila
MMT	Multipartite Monitoring Team
MOA	Memorandum of Agreement
MSSP	Manila Second Sewerage Project (the Project)
MTSP	Manila Third Sewerage Project (proposed)
MWCI	Manila Water Company Inc. (Concessionaire)
MWSI	Maynilad Water Supply Inc. (Concessionaire)
MWSS	Metropolitan Waterworks and Sewerage System (the Borrower)
NGO	Nongovernmental Organization
OD	Operational Directive
OP	Operational Policy
PCG	Philippine Coast Guard
PHP	Philippine Peso
SAR	Staff Appraisal Report
TOR	Terms of Reference
USD	United States Dollar

### Currency Unit

USD 1 = PHP 54.99 (as of 10/02/03)

## I. INTRODUCTION

1. On October 1, 2003, the Inspection Panel registered a Request for Inspection, IPN Request RQ 03/1 (hereafter referred to as “the Request”), concerning the Philippines Manila Second Sewerage Project (MSSP) (Loan No. 4019-PH) financed by the International Bank for Reconstruction and Development (the Bank).

2. ***Structure of the Text.*** The document contains the following sections: Section II briefly presents the request; Section III lays out a background of the Project, its implementation status and progress, with a focus on sea disposal issues; Section IV addresses the issue of eligibility of the Request; and Section V summarizes the Management’s response. Annex 1 presents the Requestors’ claims, together with Management’s detailed responses, in table format.

## II. THE REQUEST

3. The Request for Inspection was submitted by Timpuyog Zambales Inc., a local nongovernmental organization (NGO) on its own behalf and on behalf of 1,350 local residents, mostly members of 28 various local people’s organizations, and environmental advocates from Zambales, Metro Manila (MM) and Zambalenos in the United States and Canada (hereafter referred to as the “Requestors”).

4. Attached to the Request are:

- (i) A brief background of the Project, dated September 8, 2003;
- (ii) Letter of August 30, 2002 to the Administrator of the Metropolitan Waterworks and Sewerage System (MWSS) from the Office of the Commandant, Philippine Coast Guard (PCG) regarding the non-issuance of a dumping permit;
- (iii) Objection of the Bureau of Fisheries and Aquatic Resources (BFAR) on the Continuous Implementation of the MSSP by the MWSS, undated;
- (iv) Memorandum of BFAR of April 19, 2002 recommending suspension of the dumping by the Manila Water Company Inc, with attached request addressed to the Secretary of the Department of Environment and Natural Resources (DENR);
- (v) Excerpt from the Minutes of the Regular Session of the Sangguniang Panlalawigan of Zambales, held at the Session Hall, Capitol, Iba, Province of Zambales on November 4, 2002, containing Resolution No. 2002-402 disapproving the request of MWSS for the Sangguniang Panlalawigan of Zambales to grant an authority to Governor Vicente P. Magsaysay to sign

the Memorandum of Agreement (MOA) on the creation of a multi-partite monitoring team for the MSSP;

- (vi) Excerpt from the Minutes of the Regular Session of the Sangguniang Panlalawigan of Zambales, held at the Session Hall, Capitol, Iba, Province of Zambales on November 4, 2002, containing Resolution No. 2002-403 strongly requesting the DENR to cancel the Environmental Compliance Certificate (ECC) of the MSSP due to its sea disposal of septage component and the alleged series of sea disposals of septage to Bataan Peninsula already conducted by the MWSS as confirmed by the PCG despite the non-formation of the Multipartite Monitoring Team (MMT);
  - (vii) Excerpt from the Minutes of the Regular Session of the Sangguniang Bayan of San Narciso, Zambales, held at the Third Floor, Session Hall on October 28, 2002, containing Resolution No. 357-2002 protesting the plan of MM to dump their septic tank and sewerage waste into the sea waters surrounding Corregidor Island; and
  - (viii) Map of Septage Management Option Ocean Dumping Areas, MSSP, prepared by the Consultants OEC-DCCD.
5. No further materials were received by Management in support of the Request.
6. The Request contains claims that the Panel has indicated may constitute violations by the Bank of various provisions of its policies and procedures, including the following:
- OD 4.01 on Environmental Assessment, October 1991;
  - OP/BP 10.04 on Economic Evaluation of Investment Operations, September 1994;
  - OD 13.05 on Project Supervision, January 1996; and
  - BP 17.50 on Disclosure of Information, March 1994.
7. The Bank's records do not contain any communications from the Requestors, Timpuyog, Zambales, Inc, until September 2003. See Section IV below.

### III. PROJECT BACKGROUND

8. **The Project.** The MSSP (Loan No. 4019-PH) is an IBRD Loan to the MWSS, in the amount of USD 57 million. The Project was prepared during the early 1990s, appraised in June 1995, negotiated in April 1996, approved by the Board on May 21, 1996, and signed on June 19, 1996. However, the date of Project effectiveness was postponed when the privatization of MWSS was being planned and executed in 1996-1997. After the concessions became operative in August 1997, both concessionaires—Manila Water

Company Inc (MWCI) and Maynilad Water Supply Inc (MWSI)—communicated their decision to accept their portion of the Project activities without modification. The Project was accordingly restructured and approved by the Board on November 30, 1997. The Agreement Amending Loan Agreement was signed on March 17, 1998, and became effective on the same date. The closing date was also amended at that time from December 31, 2001 to June 30, 2003.

9. On August 31, 1999, the description of the Project was amended to incorporate, among other things, the “carrying out of septage trials,” as ocean dumping was a new technology in the Philippines. On November 12, 2002, the description of the Project was amended to incorporate, among others, the new small sewage treatment plants (maximum 23 facilities), and the rehabilitation of the Dagat-Dagatan Sewage Treatment Plant, which had not been meeting national standards for its operations prior to the Project. These investments were intended to enable the new systems to reduce biochemical oxygen demand (BOD) loading in the long-term in MM waterways and Manila Bay.<sup>1</sup>

10. On January 21, 2003, at the Borrower’s request, the Bank canceled USD11.9 million from the Loan due to exchange rate savings. On June 19, 2003, the closing date was extended to December 31, 2004, to enable the Borrower to complete the activities under the Project.

11. **Project Objectives.** The objectives of the MSSP were to assist MWSS to: (a) reduce the pollution of MM waterways and Manila Bay; (b) reduce the health hazards associated with human exposure to sewage in MM; and (c) establish a gradual low-cost improvement of sewerage services in MM by expanding MWSS’s septage management program.<sup>2</sup> The primary benefits from the Project will come from reduction of pollution and improved environmental conditions, thereby reducing human exposure to sewage and protecting public health in MM. Further, it will permit realization of the benefits from existing investments in sewerage in MM and improve sanitation service quality and coverage.

12. **Manila Sewerage and Septage Situation.** MM forms the National Capital Region and consists of seventeen municipalities (with a population of about 8.9 million in 1991). Since 1997, the water supply and sewerage services have been operated by two private concessionaires: MWCI, the East Concession; and MWSI, the West Concession under 25-year agreements. Prior to 1997, the water supply and sewerage services were operated by MWSS. MWSS, a Government corporation established in 1971, retains ownership of all existing assets and those to be financed by concessionaires.

13. According to the data available at Project appraisal, only 18 percent of the wastewater generated in MM households was collected by localized separate sewerage sys-

---

<sup>1</sup> BOD is a commonly-used measure of organic pollution.

<sup>2</sup> In this document several terms regarding waste are used: “septage” is partially or fully degraded human wastes siphoned out of septic tanks; “sewage” is composed of the raw wastes generated by domestic activities, mostly from toilets and kitchens; “liquid human wastes” include all types of human wastes that are in liquid form or have liquefied, such as leachate from solid wastes. In preparation of the response, it is assumed that references in the Request to dumping of sewage or household liquid waste in fact refer to septage.

tems. Nearly all of this was discharged through an outfall into Manila Bay; only 1 percent was treated, mostly by the Ayala and Dagat-Dagatan sewage treatment plants. Most residential wastewater (82 percent, or around 7.5 million people) was discharged into the public drainage system either directly or through approximately one million septic tanks.

14. These septic tanks were not desludged and the effluent flows into the water bodies were essentially untreated, causing heavy pollution everywhere in MM, and particularly in high density areas. With periodic desludging, existing septic tanks would remove at least 30 percent of the pollution generated by municipal wastewater. In terms of BOD, such pollution was estimated at about 1,000 tons per day. About 80 percent of this pollution originated equally from households and industrial wastewater and 20 percent from solid waste dumped in surface drains and rivers. Most of the pollution generated from domestic, industrial, and commercial activities in MM eventually ended up in the three primary water bodies: the rivers and canal system, Laguna de Bay, and Manila Bay. As a result, the river system in MM was biologically dead, Laguna de Bay increasingly turbid, and the eastern shoreline of Manila Bay was unsuitable for recreation. With

15. **Project Components.** As appraised in 1996, the Project included the rehabilitation of existing separate sewerage networks and the Ayala sewage treatment plant, and implementation of the first phase (1998-2000) of the septage management plan. The facilities included: (a) construction of a septage treatment plant and three barge loading stations for the shipment of septage; (b) rehabilitation of the central and Ayala sewerage systems, including new sewer house connections; and (c) laboratory instruments, equipment, tools, spare parts and specialized vehicles for improved sewer maintenance. The implementation support included: (a) supervision and monitoring of construction, septage collection and septage treatment plant operation; and (b) preparation of designs and documents for the next stage of sewerage system and septage management expansion. At the time, sea disposal of septage was included in the Project as an interim, short-term solution to reduce pollution of Manila Bay and waterways (see para 24 below on analysis of alternatives) and was to have ceased in 2003, by which time it was expected that future septage treatment plants would be operational. The expected date of cessation of sea disposal was revised to 2005 when the Project was restructured. The 1998 Agreement Amending Loan Agreement included a performance indicator for septage disposal to end prior to 2006.

16. **Implementation Status and Progress.** Key accomplishments of the Project to date include the Makati (formerly Ayala) Wastewater Treatment Plant (serving one of the most important business districts of MM), which has been brought up to DENR standards while increasing the incoming flow of the plant by about 50 percent. Rehabilitation of Manila (City) Central Sewerage System is 50 percent completed. The contract for the Septage Treatment Plant and Rehabilitation of Dagat-Dagatan Sewage Treatment Plant was signed on September 1, 2003 after a long delayed bidding process.

17. Under MSSP, the Bank is continuing to expedite the Borrower's efforts to develop a long term solution to septage treatment and disposal. The new Dagat-Dagatan Septage Treatment Plant, part of the long-term solution for septage disposal, is being constructed under MSSP, with a capacity of 400 cubic meters per 16 hours of operation.



This is expanded from an original design capacity of 200 cubic meters/day. The plant is expected to start operations from December 2004. Designs for expansion of the sewerage system and additional septage/wastewater treatment plants are being carried out under the MSSP, and are expected to be financed by a proposed Manila Third Sewerage Project (MTSP). See Box 1.

**Box 1. Proposed Manila Third Sewerage Project – MTSP**

**Proposed Project Development Objective(s).** The main project development objective is to improve and expand sewerage and sanitation services in the East Zone concession of the MWSS service area by providing cost-effective investments. The project is expected to reduce the further pollution of Pasig River, Manila Bay, Laguna Lake and other tributaries in and around MM. Also, the project is expected to have a significant impact on improving the living conditions of mostly low-income urban poor who live in densely populated areas and along inland waterways. It would complement the Asian Development Bank (ADB) supported Pasig River Rehabilitation Project which is financing the construction of a US\$10 million sanitation facility and tankers.

It is proposed that the project have the following major components:

- **Sewerage systems and treatment.** This component would involve the construction of sewage pipelines and treatment plants in several locations in the MWCI concession area. Existing communal septic tanks would also be upgraded to secondary level of treatment.
- **Septage management.** This would include construction of septage treatment plants to process septage from domestic septic tanks and the procurement of vacuum desludging tanker trucks. This component would allow full coverage of the East Zone concession area in terms of sanitation services.
- **Technical assistance.** This component would finance the information campaign on proper liquid waste disposal and environment preservation, consultant services during implementation, and preparation of follow-up programs on sewerage and sanitation.
- **Public assessment of sewerage and sanitation services.** This would involve upgrading the water supply monitoring system to include sewerage and sanitation services.

The estimated total project cost is USD85 million and the projected Board date is February 2005.

18. The MSSP is more than three years behind the schedule defined at effectiveness, due primarily to the effects of the Asian financial crisis and the 1998-1999 El Niño, and the concession agreement targets for sewerage and septage management have not been met, thereby delaying the implementation of the long-term septage management plans. Implementation of the MWSI portion was also delayed due to procurement problems. Consequently, not all indicators for 2001 were met, and only a few indicators are likely to be met in 2003.

19. In addition to efforts carried out under the Project, complementary efforts to resolve the environmental and health problems caused by inadequate disposal of septage are being undertaken under the ADB financed Pasig River Rehabilitation Project, which is supporting a septage treatment plant, to be located in Antipolo, with a capacity of 600 cubic meters, and expected to be operational by December 2005.

20. **Environmental Impact Assessment Process (1994-1996).** The Project was categorized by the Bank as environmental Category A. The EIA dated March 1995 (final version) was submitted by MWSS to the Bank and was disclosed at the Bank's Public In-

formation Center in Washington on March 1, 1995 and in the Philippines on June 22, 1995, at the time of appraisal. After the appraisal, the Bank and DENR sent MWSS its comments on the EIA and the Environmental Management Plan (EMP) in September 1995 to which MWSS responded by submitting a Supplementary EIA report in December 1995, which was disclosed and was the subject of subsequent consultations with various stakeholders.

21. **Environmental Management Plans.** As noted above, the March 1995 EIA contained a Project EMP. The Supplementary EIA prepared in December 1995 contained specific mitigating measures, implementation arrangements and schedules, in response to the Bank and DENR comments. A more elaborate EMP in four parts was submitted in November 1996 that contained detailed engineering designs, specific measures for each component, water quality standards, and institutional arrangements. For sea dumping, it was expected that short term aesthetic impacts (color, turbidity, smell) would occur in the disposal areas. However, because of the great water depth, the turbulence in the area, the biodegradability of the septage and the spread disposal operation employed, long term adverse impacts were not expected to occur.

22. After the Project restructuring that occurred following privatization, each concessionaire was required to submit its own EMP consistent with the concessionaire agreement with MWSS. MWSI submitted an EMP in April 2000 following detailed discussions with a number of stakeholders. MWCI submitted an EMP in September 1998 and updated it in 2002 based on some recommendations of the Delft Hydraulics Report.

23. **Consultation.** For the purpose of the EIA, consultations and disclosure for the Project were carried out in June 1994. In 1995-1996 additional consultations and disclosure were undertaken, particularly regarding sea dumping in the provinces of Bataan and Zambales. On several occasions in early 2000, MWSS, MWCI, MWSI and the Bank went to Zambales to meet with the Governor and representatives of the Provincial Board to secure their endorsement of the Project and discussed with them the various Project components including the sea dumping operations. The MMT discussed the Project at length in meetings from 1997 onwards, including the monitoring procedures for the sea dumping. Consultation with municipalities (including Cavite, Zambales and Bataan), local communities (including fisherfolk, beach owners, and tourism staff), and with NGOs took place during project preparation and implementation (see Annex 1, Item 4 and Annex 5 of this document for detailed information). Specifically, consultations in June and July 2002 with MMT members and Timpuyog included the septage management plan and the sea dumping operations. While contacts with Bataan do not appear to have occurred after sea dumping began, interaction with the Zambales stakeholder was continued throughout.

24. **Analysis of Alternatives.** The sea disposal option was analyzed in the March 1995 EIA. This option was selected as the preferred interim disposal solution, compared to disposal in the “lahar” areas remaining from the eruption of Mt. Pinatubo,<sup>3</sup> incineration,

---

<sup>3</sup> When Mt. Pinatubo erupted in June 1991, huge amounts of lahar flows (hot mudflow composed of volcanic debris and water) devastated more than 10,000 hectares of agricultural land in Central Luzon including the provinces of Tarlac

or dewatering in combination with disposal in sanitary landfills, all in the context of the short time frame of several years for which an interim disposal site would be needed. At the time of the EIA, although the lahar dumping option was only slightly more costly than the sea disposal option, the impacts could not be fully assessed because the lahar deposits themselves were physically unstable. Therefore, the option was considered not feasible at that time. In addition to being the least-cost solution among the feasible alternatives, sea disposal presented an advantage in requiring relatively minor investments in permanent structures, and it allowed disposal—with its important benefits for the urban environment—to begin quickly. Sea disposal also provided operational flexibility to increase, decrease, or completely stop the collection and disposal of septage without the serious impact on operations that would occur using other technologies. In the December 1995 Supplementary EIA (Annex 4), four additional septage disposal alternatives were considered but not recommended. It was recognized, however, that sea disposal was “environmentally unacceptable as a permanent solution” (SAR April 1996, page 27). At Project appraisal, Bank staff concluded that “the combination of phased construction of septage treatment capacity, utilization of an existing wastewater treatment plant, and temporary sea disposal represents the most practical and least-cost option for the septic tank management program if sea disposal is only available as a temporary solution.” (SAR April 1996, page 27). Sea dumping was planned to cease by the time sufficient treatment capacity was in place.

25. ***Environmental Impacts of Sea Disposal.*** The Project was expected to have a marked net positive environmental impact by: (a) reducing the level of human exposure to raw wastewater, with public health benefits; (b) reducing organic pollution of MM waterways and Manila Bay, and protecting groundwater from contamination; and (c) increasing MWSS capacity to control pollution. Relatively minor potential negative effects predicted in the EIA included: (a) traffic and noise during construction; (b) increased levels of noise and odor during septage collection and shipping and operation of the pilot treatment plant, and (c) possible accidental or improper discharge of septage.

26. The identified sea disposal site is one of eight waste disposal sites designated by the PCG in 1991, in accordance with the guidelines established by the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matters. The site is located approximately 115 kilometers from the barging stations, outside normal fishing grounds, about 20 kilometers off the nearest navigation lane, with an ocean depth of about 2,300 meters. During December to April, the current flows westward away from the shores; in the month of May the surface water circulates in a clockwise eddy pattern; from June to November, under the influence of the strong southerly wind, it moves towards Luzon’s west shores in a north to northeasterly direction.

27. The EIA estimated that from the total residential water pollution load of 390 tons/day of BOD, about 30 percent or 130 tons/day of BOD would be removed from MM’s waterways by effective performance of existing septic tanks and improved Central

---

and Pampanga. This caused widespread economic and environmental damage and created vast tracts of barren land in the area once considered the “rice and sugar bowl” of Luzon. Dumping of septage was considered to be beneficial as the septage contains essential plant nutrients and good water holding capacities, which lahar does not possess.

and Ayala sewerage systems. Results from a number of scientific studies showed that coliform and other bacteria die-off in sea water takes place within 14-15 minutes after disposal (March 1995 EIA, Section 3.4.4). According to the March 1995 EIA, potential impacts were also expected to be “insignificant.” The Bank engaged an independent outside expert (Fenviron, December 1995) to visit the Philippines and evaluate the likelihood that deep sea disposal of septage might have an adverse impact on the marine environment. The expert concluded that on the basis of internationally available data, the environmental risk in the sea disposal of septage is insignificant. This is due to both the relatively low levels of contaminants in septage, and the exceptionally high dispersion characteristics of the disposal site, which is more than 45 kilometers from the nearest shoreline. The accelerated collection and sea disposal of septage was also considered to give rise to significant and measurable benefits in the Pasig River and inner Manila Bay. See Box 2.

#### **Box 2. Deep Sea Septage Disposal**

The surface water on the west coast of Luzon Island generally circulates in a northward pattern. On the northern part of the west coast of Luzon, the circulation is deflected in a northwest direction from December to April, and in a northeast direction from June to November; it has a clockwise eddy pattern during the month of May. See Map 1.

In addition, as one goes northward along the west coast of Luzon the tide is diurnal (one high, one low). In general, this means 12 hours of flooding and 12 hours of ebbing. However, there are also slack periods due to flow reversal. Analysis indicated that the tidal conditions would provide an additional opportunity for septage to settle out of the water column before it would reach the shore. The density of dumped septage is in the range of 1.03 to 1.05 ton/cubic meter. This is little above the sea density of the Philippine Sea which as a density of 1.02 to 1.024 ton/cubic meter. Thus, the septage would float for some time before it settles.

If the septage is dumped initially at the start of tidal flooding period (inflow), the septage would travel approximately 22.25 kilometers toward the shore over a 12 hour period. During the next period when the tidal flow reverses (ebbing) the septage would travel backward by approximately 17.80 kilometers. The net transport distance over a tidal cycle would then be 4.45 kilometers/day. The nearest shore from the dumping site is some 45 kilometers.

The settling of the septage is similar to an estuarial mud. The rate at which septage would settle out of the water column (settling velocity) typically depends on the relationship between septage concentration and the ocean salinity. The expected concentration of dumped septage is 40-65 grams per liter and the salinity of the Philippine Sea is 33.3 parts per trillion. Under these conditions, the expected settling velocity would be approximately 0.3 millimeters per second. However, it is expected that with diffusion after the dumping, the septage concentration would decrease, thus the settling velocity increases further accelerating the settling process (March 1995 EIA, Annex 2).

Under the prevailing conditions at the selected site, the EIA concluded that the impact of sea dumping would be insignificant, due to the limited loading at the dump site, which would be equivalent 3.3 to 9.3 tons/day BOD, and 6-7 tons/day of suspended solids. During sea disposal, impacts on navigation and fisheries are unlikely. Short term aesthetic impacts (water color, turbidity and smell) would occur in the disposal area. However, given the deep water depth, the turbulence in the area, the biodegradability of the septage, and the spread disposal operation employed, long term adverse impact was not expected to occur (November 1996 EMP). According to the March 1995 EIA (Page 3-6, Section 3.4.4, under sea dumping), coliform and other micro organisms die off within 14-15 minutes following the disposal of raw septage, and the water quality of the dumping area restores to pre-dumping stage in five to six hours after the discharge. (Kochi University study 1985, 1986). Deposition of solids within 20 kilometer radius area (1,256 square kilometers) is estimated at 0.04 millimeters after 65,000 ton of septage are discharged during the first 3 years. Some positive benefits on fish and marine life may be expected due to the availability of organic matters and nutrients.

The worst-case scenario in relation to the dumping of septage would occur during the months of July to September, when currents and prevailing winds have a northeast flow. Under these conditions, floating septage could be carried towards the shoreline. Therefore, no dumping was to be permitted during these most critical months.

28. The environmental impact of sea dumping was further assessed through a mathematical model prepared by Danish Hydraulic Institute before the loan became effective (MSSP-Modeling of the Dispersion of Septage from Ocean Dumping, January 1997). The hydrodynamic model was used to predict the transport, dispersion and fate of dissolved and particulate pollutants from dumpsites for various loadings. Concentrations and zones of settlement were predicted and compared to international environmental quality standards. The model predicted that: (a) bacteria would not reach the coastline under any scenario; (b) no detrimental effect was expected from solid deposition on the ocean floor at depths of more than 100 meters; some effects would be found in shallow areas (mostly depths of less than 50 meters), which were not thought to be harmful to the benthic community based on international comparisons; and (c) under the most unfavorable scenario, some debris could enter the Manila Bay and reach the shores south of the Bay. The model also noted that the nutrients provided from the dumping could positively affect primary productivity in the vicinity of the dump site.

29. In accordance with national environmental regulations, MWSS submitted the Project EIA to the Philippines Environmental Management Bureau (EMB) for review on May 8, 1995. The ECC for: (a) septage collection and septage sea disposal; (b) Dagat-Dagatan pilot sewage treatment plant; (c) upgrading of the Ayala (Makati) and Manila Central sewerage systems; (d) street drainage improvement; and (e) other advanced septage treatment plants in Quezon City, Taguig and other Pasig River adjoining areas, was issued on October 10, 1996. The relevant conditions in the Project ECC are:

- *Condition 11.* All septage/effluent shall meet the National Water Quality Standards and shall be disposed of only at designated disposal sites identified by the Philippines Coast Guard in accordance with the requirements of the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Waste and other Matter.
- *Condition 12.* An MMT composed of representatives from BFAR, the Laguna Lake Development Authority, the Metro Manila Development Authority, the Department of Health, the PCG, the Department of Public Works and Highways, MWSS, the Local Government Units, concerned and the affected parties shall be formed within sixty (60) days from the receipt thereof to ensure effective environmental monitoring at all phases of Project development/implementation.
- *Condition 13.* Regular monthly monitoring of affected water resources to include the coastal waters of Bataan, Zambales and Cavite for biological, physical and chemical parameters including BOD, dissolved oxygen, turbidity, suspended solids, color, nitrogen, phosphorus, oil, grease, fecal coliforms and total coliforms shall be undertaken, the results of which shall be submitted to the EMB and relevant DENR regional offices on a quarterly basis.
- *Condition 14.* Annual monitoring of marine biota (planktons, algae, and important fish species) in the coastal waters and offshore of Bataan, Zambales and Cavite shall be conducted, the results of which shall be submitted to the EMB and DENR Regions II & IVA.

- *Condition 16.* An Environmental Guarantee Fund (EGF) shall be established by the proponent through an MOA to cover the cost of monitoring and compensation/rehabilitation for damages by the Project.

30. ***Status of Compliance with Conditions of the ECC.***

- *Condition 11.* The DENR and the PCG separately issued certifications attesting to the characteristics of the wastes that were dumped in the sea and both agencies, based on their laboratory analysis, classified the wastes to be domestic in nature, non-toxic and therefore exempt from RA 6969, otherwise known as “Toxic and Hazardous and Nuclear Waste Control Act of 1990.” Since the PCG escorts and supervises each dumping operation it also issues for each dumping activity an “After Dumping Operations Report” to ensure that each operation is in accordance with the 1972 London Convention. The report contains details of the dumping operations, the volume and type of wastes and the exact location of the dumping site.
- *Condition 12.* MMT convened for the first time on February 17, 1997. Since the Project was delayed by nearly three years, the MMT had no need to meet again until 2001. It convened again before sea dumping began and met frequently during the first year of the trial period.
- *Conditions 13 and 14.* Although the members of the MMT have not been involved collectively in monitoring the various activities of the Project, DENR, MWSS, the concessionaires, PCG and BFAR conduct their regular monitoring of the marine and coastal waters in the area. During the course of preparing this response, the Bank has been advised that a Notice of Violation was sent by DENR to MWSS on July 26, 2002 for non-compliance of ECC conditions 13 and 14 regarding non-submittal of monitoring reports to EMB and regional offices. MWSS has submitted to the EMB a response on this violation notice but has not yet received a reply. Management has been advised that to date, MWCI has submitted regular reports to EMB but not to the DENR Regional Offices III and IVA regarding Condition 13 on biological, physical and chemical water quality parameters; for Condition 14, only partial monitoring results of marine biota, including plankton and algae but not fish species were submitted to EMB but not to the DENR Regional Offices.
- *Condition 16.* The MOA is considered by DENR as legal and binding despite the absence of the signatures from Local Government Unit representatives of Bataan and Zambales, BFAR and a national fisherfolk coalition NGO known as Pampano. The EGF (PHP 5 million in escrow account) and Environmental Monitoring Fund (PHP 3 million, revolving fund) are to be jointly established by MWSS, MWSI and MWCI. This issue has been discussed in several MMT meetings. MWSS asked DENR in May 2003 if it could establish a fund in the absence of the four signatories to the MOA with a smaller amount, in order to defray costs of immediate needs. DENR has not yet responded to this. Although this issue was addressed during supervision, Management could have been more proactive in pressing for creation of the EGF.

31. ***Sea Disposal “Trial”.*** Under the Project, barging of septage from Napindan and Estero de Vitas (two of the three septage barge loading stations), and sea disposal at a designated site, in accordance with the 1996 ECC, was expected to operate from September 1998, and from Parañaque (the third station) from November 2002. Only the Estero de Vitas Station was operated on a trial basis, from April 2001 to July 2002. The Napindan barge station has been built, but not used; contracts for Parañaque have not been issued, because sea disposal subsequent to the 2001-2002 trial has not been authorized by the PCG nor undertaken (see para 33 below). The sea dumping trials were closely supervised and monitored by the PCG.

32. Sea dumping occurred from April 2001 to June 2001 and resumed in October 2001 to July 2002. The water quality monitoring results taken from five offshore monitoring stations (two in Bataan and three in Zambales) during the septage dumping periods in 2001–2002 show that none of the water quality criteria<sup>4</sup> applicable to coastal and marine waters, Luzon Sea Class “SC” were exceeded in the designated dumping area, except for those—oil, grease and heavy metals—where the background levels in the Luzon Sea were already above the limits for SC waters based on monitoring results covering five years before the dumping period. Results of the monitoring are to be found in the Quarterly Environmental Compliance Reports submitted by the two concessionaires. The entire sea dumping trials were supervised by the PCG whose ships escorted the barges, verified the dumping location, and monitored the dumping procedures. The PCG also regularly undertook concurrent water quality sampling and analysis for each dumping.

33. ***Status of Sea Disposal.*** The trial sea dumping of septage, for which a permit had been issued, stopped on July 17, 2002.<sup>5</sup> The sea dumping did not resume because the Philippines Coast Guard did not issue a new dumping permit. On August 30, 2002, the Coast Guard stated that it would not issue the dumping permit because the MOA was not enforceable until all the concerned agencies and Local Governments had affixed their signatures; it also requested the inclusion of two patrol boats in the Project package. On October 30, 2002, MWSS received from DENR a letter to the effect that it considered the MOA legal and binding despite the absence of the signatures from Local Government Unit representatives of Bataan and Zambales, and that it authorized the MMT to undertake its activities with those members who had already signified their concurrence with the MOA. Following that letter, on November 15, 2002, the PCG reiterated its earlier position and did not provide the dumping permits to MWCI. The issuance of a dumping permit became moot because of the emergence of lahar site dumping as a feasible alternative.

34. ***Status of Environmental Monitoring and Auditing.*** MWSS, MWSI and MWCI have been submitting joint reports (Environmental Compliance Reports and ECC-Compliance Monitoring Reports) summarizing the results of monitoring and compliance

---

<sup>4</sup> These include: temperature, pH, dissolved oxygen, BOD, total suspended solids, surfactants, oil/grease, phenolic substances, total coliform, arsenic, cadmium, chromium hexavalent, cyanide, lead, total mercury, and organophosphate.

<sup>5</sup> During preparation of this response, the Bank was advised by MWSS that based on reports submitted by the PCG and transmitted to us by the MWSS, July 17, 2002 is the last date that dumping occurred. All previous reports from MWCI had indicated that the last dumping took place in June 2002.

with the ECC and the EMPs. In late 2001, an independent consultant (Delft Hydraulics) was hired by the Bank to: (a) supervise the implementation of the Project according to the ECC and EMP; (b) supervise the preparation of any ECC and EMP required for construction of new sludge treatment facilities in MM; and (c) identify implementation gaps and recommend corrective actions. The consultant's final report was submitted in November 2002. At the time only MWCI was operating new facilities and revised its EMP accordingly. A number of the recommendations made by the consultant in an interim report were discussed with MWSS, MWSI and MWCI during the 9th Supervision Mission (October 2002). One of these concerned preparation of an annual environmental audit. In October 2002, the Bank requested an Environmental Audit Report, covering the period of May 2001 to December 2002. MWSS was to deliver the report by July 2003, prior to the next supervision mission. The report is still under preparation as MWSS only submitted the TOR and received a no objection letter from the Bank in September 2003. MWCI has an ongoing audit and expects to have its report completed by the end of this month. MWSI has started its audit and expects it to take one month to complete.

35. ***Current Septage Disposal Operations.*** The 1995 EIA advocated a pilot study for lahar disposal of untreated septage, since this option had the potential to be the least expensive in the long term. As noted above, at the time of the EIA, such a study could not be undertaken because the lahar deposits themselves were physically unstable. Since the EIA was prepared, the lahar deposits have stabilized enough to undertake pilot studies, which have been ongoing since mid-2000. These pilot studies have indicated the technical feasibility of using the lahar areas and have had favorable results with regard to both costs and impacts. See Box 3 below.

36. It is important to note that the lahar dumping activity is considered an environmental enhancement program that generates environmental benefits rather than negative impacts. Septage sludge contains essential elements required by agricultural crops, making the septage a potential organic fertilizer and soil conditioner resource. It uses low cost, low technology methods to increase the soil fertility of the nutrient deficient, barren farms in the lahar-affected areas. The use of the sludge as a fertilizer/conditioner has been approved and issued a permit by the Fertilizer and Pesticides Authority, legally in charge of regulating the agriculture use of septage.

37. Septage collected by MWSI is currently stored at the Dagat-Dagatan Sewage Treatment Plant. Although the DENR has not raised any objection to this activity following its regular monitoring of the plant, the Bank requested the Borrower to present an acceptable proposal for disposal in its September 2003 supervision mission. MWSI will continue the disposal of dewatered septage at the Dagat-Dagatan treatment plant until it has formulated an acceptable septage disposal strategy.



**Box 3. Trial and Evaluation of Lahar Application of Septage by MWCI**

MWCI began a trial disposal at a lahar site in April 2000, with experimental plots of limited collected septage, which has continued to the present. Beginning in July 2002, septage quantities of at least 150 cubic meters per day were applied at the identified lahar sites in Pampanga and Tarlac. A provisional or conditional registration from the FPA for the trial application was granted in 2000 and 2001 after one planting or crop season of efficacy testing. A full license was granted on December 12, 2002 for dried sludge and another full license for domestic liquid sludge after the second year of planting or crop season of efficacy testing. On February 14, 2003, FPA granted MWCI a full license as a manufacturer and distributor of fertilizer after using the dried and liquid sludge continuously for four crop years. MWCI is exploring the possibility of continued disposal of septage at a lahar site as soil conditioner and fertilizer to augment any shortfall in capacity of the sewage treatment plants to be constructed. Monitoring of the soil and plant samples is done regularly to keep track of any possible build-up of nutrients or metals in the subject areas.

An evaluation of the agricultural use of liquid sewage sludge being disposed by the MWCI is being conducted to determine its effects on the growth and yields of sugarcane in Angeles loamy sand. The experimental application of liquid and dried sludge in the lahar-affected areas in Pampanga and Tarlac uses composted and liquid sludge as soil conditioner for rice, corn and sugar crops, mixing these with other organic byproducts like sugar milling wastes such as biogas slops, mudpress, and fertilizers in the form of urea. The experiments using the sludge on sugar crops in lahar-stricken areas in Pampanga are being conducted by the Luzon Agricultural Research and Extension Center of the Sugar Regulatory Administration in Paguiruan, Floridablanca, Pampanga, while the trials in other areas in Pampanga and Tarlac are being done in collaboration with farmers groups and Local Government Units.

These experiments are being conducted to make use of the organic contents of sludge to improve the structure of the soil and its water retaining capability. While this is most often done with dewatered sludge cake applied with a manure spreader before plowing, liquid sludge contains water and this could also add extra benefit during the dry season as it helps promote growth. This will make sewage sludge a beneficial resource for the farming community, which as an environmental good practice makes use of sludge as an indigenous fertilizer material and soil conditioner rather than treating it as a waste byproduct.

38. ***Long Term Septage Disposal Plans without Sea Disposal.*** Long-term plans for septage disposal include consideration of the following:

- Based on the assumption that the lahar site remains physically stable, MWCI will continue to use lahar, because of the benefits associated with this alternative along with the lower cost (PHP 325 per cubic meter of septage for lahar dumping compared to PHP 629 per cubic meter of septage for sea dumping). The capacity can be increased but the plan is to operate at a rate of 200 cubic meters/day.
- The new septage treatment plant in Antipolo is expected to be on line by December 2005. The plant would treat around 600 cubic meters/day and will be financed by ADB.
- The proposed MTSP would finance three septage treatment plants with a total capacity of around 500 cubic meters/day. The feasibility study is currently being prepared by a consultant firm engaged under MSSP. Together with the ADB-financed treatment plant, this would provide capability to treat almost all of the septage to be collected in MWCI's concession area.
- MWSI operations may be taken over by MWSS following arbitration as a result of financial difficulties. This will generate a big gap in planning and investments for the West Zone. It is expected that MWSI/MWSS will use the septage treatment plant in Dagat-Dagatan at a rate of 400 cubic meters/day (16 hours/day) and dispose an addi-

tional 200 cubic meters/day in lahar. Long term plans for MWSS/MWSI will depend on the financial situation following arbitration.

- The sludge produced from the septage treatment plants is likely to be co-disposed on lahar sites, and made available to the farmers for agricultural and horticultural use as soil conditioner.
- The Bank anticipates that a further environmental review of the lahar option, with appropriate consultation and disclosure of the results, would be undertaken as part of the preparation for the MTSP. This would allow for incorporation of mitigative measures not yet in place or other operational modifications, and assist the Borrower to optimize the benefits of this disposal option.

39. ***Continuing Work on Resolution of Sea Disposal Issues.*** During the October 2002 supervision mission, the Project team was notified that sea dumping was stopped on June 30, 2002 (later corrected to July 17, 2002) and MWCI did not enter into a barge contract for the full-scale operations which had been planned to commence in October 2002 (Annex 5 of the October 2002 Aide Memoire). During the mission, the Bank encouraged MWCI to continue to test land application of desludged septage in lahar-stricken, agricultural lands in Pampanga and Tarlac. Earlier in February 2002, the Bank encouraged MWSI to change the specifications and scope of one of its procurement packages under the Project to include the rehabilitation of the Dagat-Dagatan Sewage Treatment Plant that has been receiving septage for a long time. The Bank also discussed with MWSI increasing the capacity of a holding tank to 400 cubic meters/day at the Dagat-Dagatan Septage Treatment Plant, which will allow it to work up to 16 hours/day (from 8 hours/day).

40. In the same mission, the Bank discussed with MWSS and MWCI the components of the proposed MTSP. The proposed investments would include three new septage treatment plants. Together with the ADB-financed treatment plant (see para 19), this would establish the capacity to treat almost all of the septage from the East Concession Zone. A detailed Project preparation schedule was discussed and agreed.

41. Although the 10<sup>th</sup> Supervision Mission was not conducted until August 2003 (because of difficulties with traveling as a result of SARS), the Bank followed up on the lahar alternative through its locally based staff. The Bank and MWSS were briefed by the Sugar Regulatory Authority (part of the Department of Agriculture) on the progress and results of testing operations. The results were presented at three regional conferences.<sup>6</sup> The Bank also made a site visit to observe the actual spreading of septage. MWSS collected sugar cane and soil samples for testing in the laboratory of the Sugar Regulatory Authority. Water sampling was not undertaken because no wells were identified in the area. The lahar soil is very porous and water percolates through it very fast and very deep

---

<sup>6</sup> 12<sup>th</sup> Central Luzon Agricultural Research and Development Consortium Regional Symposium on Research and Development, Bataan State University, Abucay, Bataan. August 17, 2001, 49<sup>th</sup> PHILSUTECH Annual National Convention, Waterfront Cebu City, August 13-16, 2002; 14<sup>th</sup> Regional Symposium on Research and Development, Science City of Munoz, Nueva Ecija. July 2003.

into the ground. The team also confirmed the absence of any human settlements in the lahar disposal area.

42. During the 10<sup>th</sup> Supervision Mission from August 26 to September 9, 2003, the Bank team was informed that MWSS, along with the two concessionaires, intended not to further utilize the option of sea dumping under the Project. In response, the Bank Project team agreed with the MWSS proposal that it would not initiate the construction of the Parañaque Barging Loading Station. The Bank Project team discussed with all the parties the process that would be needed to formally stop sea dumping. Accordingly, MWSS wrote to the concessionaires on September 5, asking them to formally provide information on their positions. The concessionaires responded on September 12 and 17, 2003. On September 19, 2003, the Bank forwarded the letter from the Requestors (prior to the registration of the Inspection Panel request) to MWSS (see Annex 2 of this document). Subsequently, on September 30, prior to the Bank's receipt of the Inspection Panel registration of the Timpuyog request, MWSS formally proposed to the Bank the non-implementation of sea disposal (see Annex 3 of this document). The Bank has agreed to this with appropriate modification of the Loan Agreement (see Annex 4 of this document).

#### IV. ELIGIBILITY

43. ***Requestors' Consultation and Discussion with the World Bank.*** The Bank's records do not contain any communications from the Requestors, Timpuyog, Zambales, Inc, until September 2003. The Bank was first contacted by Timpuyog, Zambales, Inc, through a phone call in the first week of September, prior to receipt of the letter, to the external relations officer in the Manila office. The caller inquired about sending a letter to the Inspection Panel using the Bank's diplomatic pouch. The caller was encouraged to communicate with the Bank Project team, and was given the contact information of the team leader and the Manila-based environmental specialist; the team was also advised of this inquiry but to their knowledge they were not contacted.

44. Three letters from Timpuyog, all dated September 8, 2003, were received by the Bank's team. To the Bank's knowledge, at least two of these letters were copied to the Inspection Panel. They were addressed to the external relations specialist and the environmental specialist in Manila and to the team leader in Washington DC and were received by the Bank on September 9 (Manila), September 10 (Manila), and October 1 (Washington, DC). On September 17, the Bank team forwarded the Requestors' letter to MWSS and asked MWSS to meet with Timpuyog to discuss their concerns. The team was in the process of finalizing a formal response to Timpuyog when the October 1, 2003 Inspection Panel registration was received. In a letter dated October 1, 2003 to Timpuyog, the Bank team acknowledged receipt of Timpuyog's letter and the submission of its Request to the Panel.

45. After the Bank forwarded the letter from Timpuyog to MWSS, and asked MWSS about its previous dialogues with Timpuyog, the Bank was informed that in June-July

2002, February 2003, and on September 1, 2003, Timpuyog expressed to MWSS its desire for official confirmation of the newspaper reports and informal communication regarding non-implementation of septage disposal at sea, and requested supplementary information. MWSS also reported that it provided to Timpuyog, in July 2002, information including the Loan Agreement, the Project EIA, and a PowerPoint presentation that provided an overview of the Project including information on sea dumping. However, the Bank was not aware of all these exchanges between MWSS and Timpuyog before receiving the letter from Timpuyog on September 9, 2003.

46. The Panel's Operating Procedures (August 1994) state that "before submitting a Request steps must have already been taken (or efforts made) to bring the matter to the attention of Management with a result unsatisfactory to the Requester" and that the Request should include "(e) a description of the steps taken by the affected party to resolve the violations with Bank staff, and explanation of why the Bank's response was inadequate." Given that the requests to the Bank and to the Inspection Panel were nearly simultaneous, the Bank was not afforded the opportunity to address the Requestors' issues.

## **V. MANAGEMENT'S RESPONSE**

47. The Requestors' claims, accompanied by Management's detailed responses, are provided in Annex 1.

48. As part of the Bank's actions to address the questions raised in the Request, Management:

- Has agreed to the Borrower's proposal for no more ocean dumping under the Project, as indicated in Annex 4;
- Will ask the Borrower to disclose the information (including the monitoring reports) requested;
- Will initiate a dialogue with the Requestors, as originally planned before the Inspection Panel case was registered, to address its concerns;
- Will request the Borrower to conduct a further environmental review of the lahar disposal option, with appropriate consultation and disclosure of the results, as part of the preparation for the MTSP; and
- Will continue to review and support the Borrower's preparation of the proposed MTSP, to expand sewage and sanitation services in MM, which would involve construction of additional septage treatment plants and vacuum desludging tanker trucks.

49. Management regrets that these concerns were not raised with Bank staff before the Request was sent to the Panel. As the response shows, these issues are already being addressed. Management believes that the Bank has made every effort to apply its policies and procedures and to pursue concretely its mission statement in the context of the Pro-

ject. In Management's view, the Bank has followed the guidelines, policies and procedures applicable to the matters raised by the Request. As a result, Management believes that the Requestors' rights or interests have not been, nor will they be, directly and adversely affected by a failure of the Bank to implement its policies and procedures.



**ANNEX 1  
CLAIMS AND RESPONSES**

No	Claim/Issue	OD/ OP/BP	Response
<b>Environmental Impact Assessment</b>			
1.	<p><b>EIA – Interim septage disposal.</b> While the Project’s major sewage processing component is to put up ecologically sound land-based sewage processing facilities, these were not adequate or operational two years ago, until the present. Thus, the Project proponents concentrated on a supposedly less costly method of disposing of the sewage, that is <b>collecting and dumping of Metro Manila’s household liquid waste into the South China Sea</b>, at a site about 69 kilometers from Corregidor Island near the coastal provinces of Bataan and Zambales.</p>	<b>4.01</b>	<p>The objectives of the Project are: (a) to reduce the pollution of MM waterways and Manila Bay; and (b) reduce the health hazards associated with human exposure to sewage in MM; and (c) establish a gradual low-cost improvement of sewerage services in MM (from Loan Agreement 1999, Schedule 2). The Project included a septage management plan for disposal of MM’s septage, with sea disposal as an interim solution until treatment capacity was established. At appraisal this interim solution was estimated to be needed until 2003 (EIA March 1995, Figure 3.20, page 341), when the septage treatment plant was expected to have been completed. This date was revised to 2005 when the Project was restructured (Board Memo on Restructuring Nov 30, 1997, page 7).</p> <p>The disposal site is 14°20’N and 120°00’E in the Luzon Sea (Page 3-15 of EIA 1995), as shown in Map 1. The sea disposal option, according to analysis undertaken at appraisal, was the least-cost solution (SAR page 55; March 1995 EIA, pages 6-15). See Item 2 below for the analysis of alternatives.</p>
2.	<p><b>EIA –Analysis of alternatives.</b> This Project’s sea dumping component is a clear case of dumping waste in others’ backyard. While the Project proponents argue that this is a less costly method of managing urban sewage system, there are other effective land-based, more environment friendly and less costly methods. Moreover, investing in ecologically sound approaches turn out to be more cost-efficient in the long-term.</p>	<b>4.01</b>	<p>The long-term plans for sewage management envisaged by the Project include rehabilitation of existing sewerage networks and treatment plants and construction of a septage treatment plant. The EIA analyzed five interim septage management options: disposal at sea; disposal on lahar sites; treatment in a plant; dewatering in combination with disposal in sanitary landfills; and incineration, as well as the no-project alternative. Investment costs and operating costs were estimated for each option. As an interim, short-term solution to reduce pollution of Manila Bay and the waterways, the sea dumping option was found at the time to have the lowest estimated cost and minimal negative impacts on the environment (see Item 4 below).</p> <p>At the time of the EIA, although the lahar dumping option was very close to the sea disposal option in cost, the impacts could not be fully assessed because the lahar deposits themselves were still moving. Since the EIA was prepared, the lahar deposits have stabilized enough to undertake pilot studies, which have been ongoing since end 2000. These pilot studies have indicated the technical feasibility of using the lahar areas and have had favorable results with regard to both costs and impacts.</p>
3.	<p><b>EIA – Impact analysis</b></p> <ul style="list-style-type: none"> <li>- <b>Health.</b> Health risks to people posed by any sea dumping activity to achieve the Project goals have not been adequately addressed.</li> <li>- <b>Tourism.</b> Possible destruction of precious tourist coastal destinations, thus discouraging visitors to these local areas has not been adequately addressed.</li> <li>- <b>Safety.</b> The Project team has yet to prove its claim this sewerage dumping at sea is safe for people’s health and to the rich marine life it</li> </ul>	<b>4.01</b>	<p>The EIA noted that potential impacts to nearby coastal areas from sea dumping were expected to be “insignificant” because of the high degree of expected dilution and mixing resulting from the effects of prevailing currents and winds at the time of dumping and the low survival rates of potential pathogens in salt water as well as the distance from the dumping site.</p> <p>Water quality monitoring conducted by MWSS in the coastal areas of Bataan and Zambales started in 1995, 6 years prior to the sea dumping activity to gather baseline environmental conditions in the coastal areas. The water quality monitoring results taken from 5 offshore monitoring stations (2 in Bataan and 3 in Zambales) during the septage dumping periods in 2001–2002 show that the allowable limits for water quality criteria applicable to coastal and marine waters, Luzon Sea Class “SC” were not exceeded, except for oil, grease and heavy metals, which were already</p>

No	Claim/Issue	OD/ OP/BP	Response
	will affect. This technology is already banned in many countries because it violates new international laws of the seas.		<p>above the water quality criteria for SC waters based on the results of the monitoring undertaken before the dumping period.<sup>7</sup></p> <p>Since both the analysis and monitoring results indicated that water quality would be well within national standards, no specific studies on impacts regarding health and safety or tourism were carried out. See also Box 2 above and item 4 below.</p> <p>To the Bank's knowledge, the approach is consistent with the 1972 London Convention, and there are no new applicable international laws of the sea since the 1972 London Convention.</p>
4.	<p><b>EIA – Impact analysis – Marine Resources.</b> Negative impact on the economy in the coastal areas near the dumping site due to possible “red tide” or “fish kill” phenomena, thereby jeopardizing the fishing industry has not been adequately addressed. The Government's Bureau of Fisheries and Aquatic Resources (BFAR) under the Department of Agriculture, has declared that the dumping site is a rich fishing ground and warned that the dumping activity would compromise the lives of the rich variety of marine creatures as well as the livelihood of fishing communities nearest the site.</p>	4.01	<p>The dumping site was one of eight designated by the PCG with its memorandum circular #02-91 dated Jan 21, 1991. The Bank has been unable to find any formal reference to BFAR's declaration of the dumping site as a rich fishing ground; such a declaration appears to be in conflict with other decisions by the Government, including the decision by DENR, which issued the ECC for the dumping. The March 1995 EIA notes that: “A general aquatic resource map of the area indicates that tuna species are found seasonally in the deep seas west of Luzon. According to information gathered at the Navotas Fishing Port, deep sea fishing is made in the general areas west of Lingayen Gulf, but seldom in the vicinity of Dumpsite 1 CGD.” (Section 4.3.11)</p> <p>Generally, the 15 kilometers strip from the coastline is considered reserved fishing grounds for local fishermen for shallow fishing. On the Luzon west coast this strip is less than 184 meters deep. According to the technical information in Box 2 above, even under the worst conditions, the septage would take five days of horizontal travel to reach the fishing strip, and would be subject to dilution and mixing during that time. It would also be traveling vertically, with some settling deep in the sea. (March 1995 EIA, Appendix 2). Because this analysis indicated that the dilution, mixing and transport of the septage would result in temporary and insignificant incremental effects on water quality, no specific analysis on fisheries was conducted.</p> <p>In addition, as noted above in item 3, the water quality monitoring undertaken for the trial dumping periods indicates that allowable pollution limits were not exceeded.</p>
5.	<p><b>Environmental Compliance Certificate.</b> In the province of Zambales the provincial governor was made to endorse [the project] but he made it clear that this was on the condition that “all globally accepted governing rules and regulations and environmental requirements will be strictly complied to protect the interest of our constituents.” His letter is annexed to the Project Environmental Impact Assessment Cer-</p>	4.01	<p>The Project was presented to the Provincial Board and Governor of Zambales on Feb 21, 2000. The Governor of Zambales requested and received additional information to study the Project in June 5, 2000 and signed a favorable endorsement of the Project in July 20, 2000.</p> <p>In a letter from DENR dated May 3, 2001, issued by Peter Anthony A. Abaya, Director of the EMB, it was stated “under DENR Administrative Order No. 29 Series of 1992 Implementing Rules of RA 6969 known as “Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990,” septic tank effluents are considered as exempted wastes. Thus, this type of waste is not regulated under RA 6969.” The dumping of septage therefore is a valid practice under the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Harmful Matter at Sea considered at the time of the EIA (1995).</p>

<sup>7</sup> Based on the water quality data for the five monitoring stations along the coastal areas of Bataan and Zambales provided to the Project team by MWSS, the background levels during almost all of the sampling periods, particularly for parameters on oil and grease, cadmium, copper, lead and at times chromium, were considerably above the set allowable limits—before the dumping—for class “SC” waters, which under DENR's classification are “for the propagation of fishery resources” The monitoring results during the dumping period (April 2002- June 2002) compared to the pre-dumping period results (1995 - 2001) do not exhibit any marked change either before or after the sea dumping (~ +/- 10 percent) in the water quality characteristics nor any exceedance of the allowable limits (except for the already elevated background levels) in the coastal areas for all 26 physico-chemical and bacteriological parameters monitored.



No	Claim/Issue	OD/ OP/BP	Response
	tificate since this is a condition for the issuance of the Project's Environmental Compliance Certificate (ECC).		
6.	<b>Consultation.</b> In 2000, the proponents sought the endorsement of the Project by local government officials without adequate information about its potential impact on the local areas and did not consult local residents about it.	<b>4.01</b>	<p>Details of consultations for preparation of the Project, including the EIA, are provided in Annex 5. Documentation including minutes of meetings and attendance sheets are available in the Project files.</p> <p>In 1995-1996 consultations and disclosure were undertaken, in particular regarding sea dumping in the provinces of Bataan and Zambales. In October 1996, the MWSS team visited the provinces of Bataan and Zambales (including the five coastal Barangays close to the sampling stations for monitoring of water quality) to conduct public consultations focusing on septage management and environmental monitoring component of the Project.</p> <p>In early 2000, MWSS, MWCI, MWSI, and the Bank went to Zambales to meet with representatives of the Provincial Board to discuss the Project including the potential impacts of sea dumping.</p> <p>The Governor of Bataan endorsed the Project in a letter to DENR dated January 12, 2000; the Governor of Zambales endorsed the Project in a letter to DENR dated July 20, 2000; the Cavite Governor endorsed the Project on April 3, 2000.</p>
7.	<b>Consultation.</b> Dumping testing [was] undertaken in 2001 and 2002 virtually under wraps, as the Local Government Units and the people of the affected coastal provinces have not been properly and sufficiently informed of the details of the said testing. It was only then that the local monitoring teams were requested to be formed by the provincial governments. Neither was there any report submitted about the monitoring of the waters or the testing undertaken. These violate the ECC issued to the Project proponents in October 1996 (Secs. 12, 13, 14).	<b>4.01</b>	<p>MWSS, MWCI and MWSI have been conducting environmental monitoring activities, and have been reporting to the EMB of the DENR and the Bank.</p> <p>Regular water quality monitoring was done, the results of which were submitted to EMB of the DENR in the form of quarterly Environmental Compliance Reports since 2001. Condition number 14 of the ECC concerning annual monitoring of marine biota was partially fulfilled with data collected on plankton and algae but not on fish species. See also Item 3 above.</p> <p>The water quality monitoring reports were provided to DENR, the chair of the MMT, which includes representatives from the concerned Local Governments, excluding Bataan and Zambales, who had not signed the MOA.</p>
<b>Economic Evaluation of Investment Operations</b>			
8.	The letter strongly requests that the World Bank's MSSP counterpart Project task force as well as the Inspection Panel immediately review the implementation of the Project, reexamine the funding conditions and cost-benefits of its sea dumping component and withhold scheduled loan disbursements until all issues surrounding sea dumping have been clarified.	<b>10.04</b>	<p>The purpose of the septage management component of the Project is to substantially improve the performance of 300,000 septic tanks (one-third of MM's septic tanks) which, with periodic desludging, can function as effective pollution abatement instruments. With desludging, the septic tanks can remove 30-65 percent of organic pollution and 90 percent of suspended solids. Without desludging, a maximum of 10 percent removal of organic pollution (BOD) is possible. Full desludging will result in reduction of BOD load by 58-135 tons/day, which is equivalent to 17-39 percent of the total BOD generation of MM (EIA, para. 5.1.1).</p> <p>Cost-benefit analysis: The benefits of environmental projects, such as environmental improvements and better health of residents, are difficult to value in monetary terms. The SAR, however, did try to obtain lower-bound estimates for individual Project components, including the septage management component. The result showed that the internal rate of return would be 12 percent if ocean dumping were chosen as a permanent disposal method. The benefits as captured in the analysis include only the</p>

No	Claim/Issue	OD/ OP/BP	Response
			<p>value of septic tanks as an investment, and do not include any impact of the reduction in pollution loads. Therefore the internal rate of return reflects the lower-bound of the actual benefits of the Project.</p> <p>Least-cost analysis: The least-cost analysis tried to find the least cost solution to the attainment of the Government's target of reducing pollution load in terms of BOD by 20 percent. The analysis first identified that "conversion to combined drainage and sewer system with household septic tanks" is preferred to other alternatives. It then considered various alternatives for septage disposal, including disposal at sea, land application, treatment at wastewater treatment plants, and independent septage treatment facilities. At the time, sea disposal was found to be the least expensive option (USD15,000/cubic meter), followed by disposal in the lahar lava fields resulting from the Mt. Pinatubo eruption (USD18,000/cubic meter), and land-based chemical/biochemical treatment (USD115,000/cubic meter). The septage management component was economically justified chiefly on least-cost analysis.</p> <p>In the time since these analyses were undertaken, the lahar option has been pursued on a limited basis. It has proved to be less expensive and is intended to replace sea disposal as an interim option and to be part of a diversified approach to long-term septage management.</p>
<b>Supervision</b>			
9.	<p><b>Monitoring.</b> As of April 2002, from information gathered, the MWCI, after trial runs conducted in May 2001, had resumed dumping septage in the South China Sea even though the Memorandum of Agreement for the creation of the Multipartite Monitoring Team and the creation of the Environmental Monitoring Fund had not yet been signed by the concerned agencies in violation of the conditions set forth in the ECC issued by the DENR.</p>	13.05	<p><b>Sea Dumping.</b> Sea dumping took place on a trial basis from April 27, 2001 to June 8, 2001 and resumed on October 3, 2001 and ended again on July 17, 2002. A total of 25,396 cubic meters of septage were dumped, and around 7,000 septic tanks were desludged. The total amount dumped is equivalent to about twenty-six days of planned full operation.</p> <p><b>Monitoring.</b> Water quality monitoring was undertaken at least twice monthly during this trial dumping period. The Bank received regular reports from the PCG, MWSS and DENR for the dumping site, and for the monitoring stations of Manila Bay and the coastal area. These reports were reviewed by an Environmental Specialist from Delft Hydraulics, for the EIA Mid-Term Progress Report. The results were discussed with MWSS, MWSI and MWCI in October 2002 during the 7<sup>th</sup> Supervision Mission (para. 24 of the Aide Memoire).</p> <p>The concessionaires fund their own monitoring activities. DENR and other Government agencies have used their own budgets to fund their own monitoring activities.</p> <p><b>Bank Supervision Activities on the MMT.</b> During Project supervision, Bank staff repeatedly (Aide-Memoires, February and October 2002; Management Letters of July 2001, March and November 2002) urged the Borrower to take actions to address the requirements of the ECC, including the operation of the MMT.</p> <p><b>MMT.</b> MMT convened for the first time on Feb 17, 1997. The next meeting was held on Feb 28, 2001, and subsequent meetings were held on March 16, 2001, May 24 2001, June 8, July 6, 2001, August 10, 2001, October 19, 2001 and November 16, 2001.</p> <p><b>EGF.</b> The draft MOA was first circulated at the MMT meeting in March 2001. To date, the MOA has been signed by the Department of Health, the Department of Public Works and Highways, Metropolitan Manila Development Authority, MWSS, Province of Cavite, MWCI, MWSI, Laguna Lake Development Authority, the PCG, and DENR. The MOA is considered by DENR as legal and binding despite the absence of the signatures from Local Government Unit representatives of Bataan and Zambales, BFAR and Pampano. The EGF and Environmental Monitoring Fund are to be jointly set up by MWSS, MWSI and MWCI. MWSS asked DENR in May 2003 whether it could establish a fund in the absence of four signatories to the MOA with a smaller amount, to defray costs of immediate needs. DENR has not yet responded to this.</p>

No	Claim/Issue	OD/ OP/BP	Response
			Information on monitoring activities is provided in Annex 6 and a chronology of the Bank's supervision missions can be found in Annex 7.
<b>Disclosure of Information</b>			
10.	While the MWSS and its concessionaires carried out dumping testing in October 2001 - March 2002, it has not issued any statement about the results of the testing findings. Its environmental monitoring team has not also reported to Project stakeholders, such as local governments and organized groups in affected areas about results of its monitoring activities. The Project implementers have not made any report about dumping testing that was carried out in 2000-2001.	<b>17.50</b>	<p>MWSS/MWCI reported meetings with Timpuyog on June 27, 2002 in Zambales and on July 5, 2002 at MWSS. The minutes of the meeting on July 5, 2002 are available, and the presentation made by MWSS/MWCI to Timpuyog is available on CD-Rom.</p> <p>The EIA, Project components, details of the sea dumping operations and the water quality monitoring stations, information about the ECC, MMT and results of the consultations were disclosed to stakeholders, including all MMT members and Timpuyog. Actual monitoring results were not disclosed. However, monitoring results were regularly provided to the EMB of the DENR.</p>
11.	A number of NGOs like the TIMPUYOG Zambales and the Zambales Resort Owners' Association have individually requested for the MWSS and the DENR to make their position official and state this in clear terms for the interest of all other stakeholders. Until this day, the agency has not made any official declaration about its shelving of the sea dumping activities. Neither has it made any definite commitment that sea dumping will never be undertaken at any time in the future nor provide information regarding its alternative made of disposing of its collected liquid wastes from Metro Manila.	<b>17.50</b>	<p>MWSS and the concessionaires have advised the Bank that sea dumping has been stopped and will not resume within the life of the Project, as proposed by MWSS on September 30, 2003, and to which the Bank responded on October 15, 2003. See Annexes 2-4.</p>



**ANNEX 2**  
**SEPTEMBER 19, 2003 LETTER FROM THE BANK TO MWSS**



**The World Bank**

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street N.W.  
Washington, D.C. 20433  
U.S.A.

(202) 473-1000  
Cable Address: INTBAFRAD  
Cable Address: INDEVAS

September 19, 2003

Honorable Orlando C. Hondrade  
MWSS Administrator  
Katipunan Road, Balara, Quezon City

*Subject: Letter of Timpuyog Zambales, Inc. on the MSSP activities in Manila Bay*

Dear Mr. Hondrade:


We would like to endorse to you a letter sent to us by Timpuyog Zambales, Inc., an advocacy group, expressing their sentiments regarding the sea dumping activities undertaken by the MSSP.

We suggest you and everyone concerned to meet with this group regarding their concerns with the MMT led by DENR, BFAR, PCG and the private concessionaires. Please send a written clarification to Timpuyog Zambales summarizing the agreement during the meeting, with copy tour files.

Please find attached their letter and other supporting documents for your reference.

Please feel free to contact us in case you need our assistance.

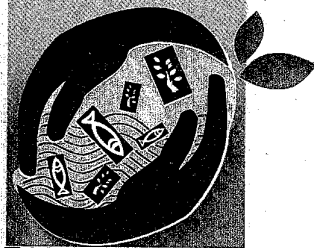
Sincerely,

  
Luis Favares  
Task Team Leader  
Senior Water and Sanitation Specialist  
Urban Development Unit  
East Asia and the Pacific Region.

CC: *Timpuyog Zambales, Inc.*

RCA 248423 ☐ WUI 64145 ☐ FAX (202) 477-6391

TIMPUYOG



ZAMBALES, INC.

SCANNED FILE COPY			
Accession No.		Box No.	
FPN	Date	SEP 2003	Log No.
Action	cc	N/A/CA/om	
Drawer: AAA & Stand Country Info./General Donor-Aid Coord./Internal Orders / Lending/ Topical / Adm.			
Folder / Sub-folder			

08 September 2003

**Ms. Leonor Gonzales**

Head

The World Bank Philippine Office

23<sup>rd</sup> Floor The Taipan Place Tower

Emerald Avenue, Ortigas Center, Pasig City

Dear Ms. Gonzales,

This is just a brief note to explain why we have more than a thousand signees for our letter.

Last March 1, 2003, our organization, which is an environment protection and conservation advocacy group, along with local government officials in San Narciso, Zambales, and other organized groups in Zambales like the Zambales Resort Owners' Association (ZROA), KADRE-Kalikasan, and PARASAMAZA, a fisherfolks' group, launched an education and information campaign regarding environmental issues besetting our locality, the sea dumping component of the project among them.

It was a consensus in the group that we write to the concerned authorities that implements and the World Bank that funds the Manila Second Sewerage Project (MSSP) to express our opposition to any sea dumping activity.

We were able to meet with different fisherfolks' groups and other people's organizations, mostly in coastal communities, in the course of this education drive and gathered signatures for our letter from the following barangays in six of the 13 municipalities of Zambales: Brgys. Togue Taltal, Baloganon, North Poblacion, South Poblacion, Panglit, Atob, San Salvador, Libertador, and Puerto Asinan all in **Masinloc**; Brgys. Locloc, Luan, Macarang in Palauig; Brgys. Bangan and Parel, Villar in **Botolan**; Brgys. Camiing and Arew in Cabangan; Brgys. La Paz, Natividad, and San Rafael in **San Narciso**; and Brgy. Pundaquit in **San Antonio**; and Brgy. Calapandayan in **Subic**.

During the Earth Day Celebration held in Quezon City in April 22, 2003, our group was invited to speak about the issues surrounding the sea dumping activity and we were able to solicit the support of a number of environment advocates in Metro Manila. Through the internet, we were also able to gather support from friends in Metro Manila, and even fellow Zambalenos in the US and Canada.

We are enclosing a copy of the signatures. This is our way of expressing our desire to be part in the processes of development, especially in government projects that will affect us.

Thank you very much. On behalf of all the signatories,

  
**La Rainne Abad-Sarmiento**  
President, TIMPUYOG-Zambales



SCANNED FILE COPY			
Accession No.		Box No.	
FPN	Date	0 SEP 2003	Log No.
Action		cc	
Drawer: AAA & Stand Country Info./General Donor-Aid Coord./Internal Orders / Lending/ Topical / Adm.			
Folder / Sub-folder:			

08 September 2003

**Ms. Leonor Gonzales**

**Head**

**The World Bank Philippine office**  
 23<sup>rd</sup> Floor The Taipan Place Tower  
 Emerald Avenue, Ortigas Center, Pasig City

Dear Ms. Gonzales,

Warm greetings.

We are residents and friends of the Province of Zambales in the Philippines, located at the western section of the central Luzon region, along the coast of the South China Sea.

We wish to call your attention to the World Bank Project in the Philippines covered under Loan No. 4019, a Loan Agreement for the Manila Second Sewerage Project (MSSP) signed between the Metropolitan Waterworks and Sewerage System (MWSS) and the International Bank for Reconstruction and Development dated June 19, 1996.

We would like to register our strong opposition to one of the project's components which involves sea dumping of liquid wastes from Metro Manila to the South China Sea some sixty-nine (69) kilometers from our local shores. Being situated in the region which is the nearest point from the MWSS liquid waste dumping site, we are therefore among the most affected population.

At present the project proponent MWSS and its two concessionaires, the Manila Water Co. and the Maynilad Water Services, could not proceed with the dumping activity because the Philippine Coast Guard has suspended the issuance of a dumping permit and also face disapproval by local authorities and citizens. The project implementers have not made any report about dumping testing that were carried out in 2000-2001.

As we await the proponents to issue an official statement about the matter and to commit that no sea dumping of sewerage will be carried out in the future, we strongly urge the World Bank's MSSP counterpart Project Task Force as well as the Investigation Panel to immediately review the implementation of the project, re-examine the funding conditions and cost-benefits of its sea dumping component, and withhold scheduled loan grants until all the issues surrounding the sea dumping activity have been clarified to the satisfaction of all parties concerned.

Enclosed is a brief background of the project and other pertinent documents for your reference. Thank you very much for your attention.

Yours,

**Group of 1, 350 local residents, mostly members of 28 various local people's organizations and environmental advocates from Zambales, Metro Manila and Zambalenos in the US and Canada**

cc. Prof. Edith Brown-Weiss, WB Investigation Panel  
 Mr. Luiz Tavares, WB MSSP Counterpart Task Force  
 Ms. Maya Villaluz, Environment Consultant, WB Philippine office

## A BRIEF BACKGROUND OF THE PROJECT

The **Manila Second Sewerage Project (MSSP)** is carried out by the Metropolitan Waterworks and Sewerage System (MWSS) and its private concessionaires Manila Water Co., Inc. (MWCI) and Maynilad Water Services, Inc. (MWSI). The MWSS signed a loan agreement with the International Bank for Reconstruction and Development in 1998 for this project.

### **Project Objectives and Components**

Based on the 1996 loan agreement document the project aims to (a) reduce the pollution of Metro Manila waterways and the Manila Bay; (b) decrease the health hazard from human exposure to sewage for the city's residents; and (c) establish a gradual low-cost improvement of sewerage services in Metro Manila by expanding the MWSS' septage management program. (Schedule 2, p.16).

While the project's major sewage processing component is to put up ecologically sound land-based sewage processing facilities, these were not adequate or operational two years ago until the present. Thus, the project proponents concentrated on a supposedly less costly method of disposing of the sewage – *that is collecting and dumping of Metro Manila's household liquid waste into the South China Sea*, in a site about 69 kilometers from Corregidor Island near the coastal provinces of Bataan and Zambales.

Following the project plan, dumping shall be undertaken as follows: After eight (8) tanker trucks (equivalent to a minimum of 400 cubic meters) of liquid waste is loaded onto a waiting barge at the port area in Manila Bay, this will travel for three days until it reaches the designated spot. The barge will then pump out its load within a 10-kilometer radius through a seven meter (7m) pipe lowered from the belly of the barge at a depth of around 2,300 meters. Liquid waste dumping would be undertaken for nine months in a year, ceasing operations during the rainy months from July to September, when the sea current moves inward. Based on the plan, sea dumping would be carried out for five years, from 2002 until 2007 (Appendix 3 of 1994 Environmental Impact Assessment).

### **Economic, Environmental, Social Impact of MWSS sea dumping activity**

This project's sea dumping component is a clear case of dumping waste in others' backyard. While the project proponents argue that this is a less costly method of managing urban sewage system, there are other effective land-based, more environment friendly and less costly methods. Moreover, investing in ecologically sound approaches turn out to be more cost-efficient in the long-term.

Until now the following key questions surfaced by various sectors that would be potentially affected by the project have not been adequately addressed. These concerns include:

- (1) health risks to people posed by any sea dumping activity to achieve the project goals;
- (2) negative impact on the economy in the coastal areas near the dumping site due to possible 'red tide' or "fish kill" phenomena, thereby jeopardizing the fishing industry; and
- (3) possible destruction of precious tourist coastal destinations, thus discouraging visitors to these local areas.

The project team has yet to prove its claim that this sewerage dumping at sea is safe for people's health and to the rich marine life it will affect. This technology is already banned in many countries because it violates new international laws of the seas.

In the late 2002, the Philippine Coast Guard suspended issuing dumping permits after the local governments opposed the project (Annex 1). The consent of the latter is a prerequisite for the issuance of the permit. The government's Bureau of Fisheries and Aquatic Resources (BFAR) under the Department of Agriculture, has declared that the dumping site is a rich fishing ground and warned that the dumping activity would compromise the lives of the rich variety of marine creatures as well as the livelihood of fishing communities nearest the site. The BFAR also said cases of algal bloom (such as the red tide phenomenon) and fish kill (due to lack of oxygen supply) are potential effects of the dumping activity (Annexes 2, 3, 4)

With the sea dumping component, the project implementing team was unable to achieve its set goals. Even if it is very clear that the method is simply moving waste from the bay to the sea, and the health risks to Metro Manila residents to the residents in other communities nearest to the dump site, still, the proponents choose this method of waste disposal. They justify this with the claims that: (1) it does not cause health problems since bacteria accompanying the liquid waste will perish within 15 minutes upon contact with salt water; (2) it is safe because the liquid water would dissipate long before they would reach the municipal waters; (3) this technology was used in many countries including many European countries and Japan in the 1970s up to the late 80s and early 90s when they have developed other ways to dispose of their sludge; and (4) it is presently an authorized industrial waste dumping site anyway.

#### **Violations of the Project's Environmental Compliance Certificate**

In 2000, the proponents sought the endorsement of the project by local government officials without adequate information about its potential impact on the local areas and did not consult local residents about it. In the province of Zambales the provincial governor was made to endorse it but he made it clear that this was on the condition that "all globally accepted governing rules and regulations and environmental requirements will be strictly complied to protect the interest of our constituents." His letter is annexed to the project Environmental Impact Assessment Certificate since this is a condition for the issuance of the Project's Environmental Compliance Certificate (ECC).

Dumping testing were undertaken in 2001 and 2002 virtually under wraps, as the LGUs and the people of the affected coastal provinces have not been properly and sufficiently informed of the details of the said testing. It was only then that the local monitoring team were requested to be formed by the provincial governments. Neither were there any report submitted about the monitoring of the waters or the testing undertaken. These violate the ECC issued to the project proponents in October 1996 (Secs. 12, 13, 14).

#### **Opposition by local authorities and residents**

Two public hearings on the project was held in July and in October, 2002 in the provincial capitol in Iba, Zambales with local and regional government officials, people's organizations, and the private sector. In both these fora, all sectors present have expressed their disapproval of the project especially because the safety and soundness of the project could not be assured.

Following this, the provincial board of Zambales signed a resolution (2002-402) in December 2002 disapproving the request of the project proponent MWSS for the provincial board to authorize the provincial governor to sign the Memorandum of Agreement for the creation of a local Monitoring Team for the project. The formation of the monitoring body is one condition for the issuance of the project's ECC. Another resolution was passed (No. 2002-403) demanding the cancellation of the Project ECC by the Department of Environment and Natural Resources because of the violation regarding the lack of proper information to and consultation with the concerned local governments and their constituents (Annexes 5 and 6). A number of municipal legislative councils also expressed the same sentiment (Annex 7).

### **No more sea dumping, ever**

It must be emphasized that while the MWSS and its concessionaires carried out dumping testing in October 2001- March 2002, it has not issued any statement about the results of the testing findings. Its environmental monitoring team has not also reported to project stakeholders, such as local governments and organized groups in affected areas, about results of its monitoring activities.

Due to people's opposition and other developments stated above, the septage dumping activities has been temporarily suspended early this year (2003) by the MWSS and its two concessionaires. This was the declaration made by an unnamed MWSS official, in a local newspaper interview (Alena Mae S. Flores, Manila Standard, February 9, 2003). This was also confirmed by the MWSS technical staff when reached by phone. An MWSI representative also said that other liquid waste management alternatives are now employed.

A number of NGOs like the TIMPUYOG Zambales and the Zambales Resort Owners' Association have individually requested for the MWSS and the DENR to make their position official and state this in clear terms for the interest of all other stakeholders. Until this day, the agency has not made any official declaration about its shelving of the sea dumping activities. Neither has it made any definite commitment that sea dumping will never be undertaken at any time in the future nor provide information regarding its alternative mode of disposing of its collected liquid wastes from Metro Manila.

08 September 2003

**ANNEX 3**  
**SEPTEMBER 30, 2003 LETTER FROM MWSS TO THE BANK, WITH THREE ATTACHMENTS**





Republika ng Pilipinas  
**PANGASIWAAN NG TUBIG AT ALKANTARILYA SA METRO MANILA**  
Metropolitan Waterworks and Sewerage System  
Katipunan Road, Balara, Quezon City 1105, Philippines

30 September , 2003

**MR. LUIS CLAUDIO TAVARES**  
Task Team Leader for MSSP  
The World Bank  
23<sup>rd</sup> Floor, The Taipan Place  
Emerald Avenue, Ortigas Center  
Pasig City, Philippines

SCANNED FILE COPY			
Accession No.		Box No.	
FPN	Date 2 - OCT 2003	Log No.	
Action CV	cc MW/MAL/IA/OM/TP/CA/NA		
Drawer: AAA & Stand County Info./General Donor-Aid Coord./Internal Orders / Lending/ Topical / Adm. 10 04 611			
Folder / Sub-folder: gen. doc.			

Attention: Cecille Vales  
Operations Officer, Procurement & Disbursement

Subject : IBRD Loan No. 4019-PH: MSSP  
Sea Dumping of Septage

Dear Mr. Tavares:

We acknowledge receipt of your letter of endorsement dated 19 September 2003 regarding the sentiments of Timpuyog Zambales on the sea dumping of septage.

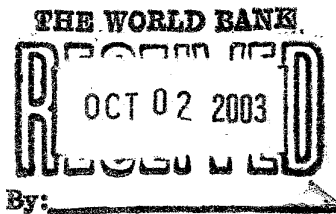
Relative thereto, and as discussed during the Tenth Supervision Mission, we sent letters to the Concessionaires inquiring on their official position on the sea dumping of septage component of MSSP. We are sending herewith their reply letters, for your information.

Based on the position of the Concessionaires and considering that the implementation has been extremely difficult for reasons you are well aware of, we are formally proposing the non-implementation of the sea dumping of septage as an aspect of septage management.

We would be glad to discuss with you the matters of concern resulting from this matter.

Very truly yours,

  
ORLANDO C. HONDRADE  
Administrator





September 17, 2003

**MR. ORLANDO C. HONDRADO**  
Administrator  
Metropolitan Waterworks and Sewerage System  
MWSS Building, Katipunan Road  
Balara, Quezon City

**M** Engineering & Project Management Dept.

**W**  
**S**  
**S**

SEP 30 2003  
Received by: \_\_\_\_\_  
Time: 9:55 Ctrl. # \_\_\_\_\_

Dear Administrator Hondrado:


This is in reference to your letter dated September 5, 2003, requesting for our formal position on the Septage Sea Disposal component of MSSP.

One of the key assumptions in the sanitation targets in the Concession Agreement and in our Rate Rebasing Plan approved by the MWSS Regulatory Office is the septage sea disposal component. Our sanitation targets assume that septage collected from domestic septic tanks can be barged off to a specific location in the open sea, as approved by the Department of Environment and Natural Resources (DENR), according to the Environmental Compliance Certificate (ECC) issued for the MSSP. In fact, in mid-2000, Manila Water started trial operations for septage sea disposal after obtaining all the necessary permits. However, due to pressures from government agencies and local government units, we were forced to terminate all operations after one year.

We have since looked at other alternatives to septage disposal. At the moment, we are using septage as soil conditioner in lahar-laden areas for enhancing growth of sugarcane. The MWSS and the World Bank have recognized these operations. We are also pursuing the Sanitation Component of the Pasig River Rehabilitation Project, which involves the construction of a 600 cum/day septage treatment plant.

We hope we have addressed your query.

Sincerely,

  
**ANTONINO T. AQUINO**  
President



9/18



MAYNILAD WATER SERVICES, INC.

METROPOLITAN WATERWORKS & SEWERAGE SYSTEM ADMINISTRATOR'S OFFICE

September 12, 2003

*Handwritten signatures and initials: "MWA C", "M. Halli", and "MH"*

RECEIVED BY:  
NAME: \_\_\_\_\_  
DATE: 9/12/03  
4:05 P.M.

**MR. ORLANDO C. HONDRADE**  
Administrator  
Metropolitan Waterworks and Sewerage System  
Katipunan Rd., Balara,  
Quezon City

**M** Engineering & Project Management Dept.

**W**

SEP 18 2003

**S**

Received by: [Signature]

**S**

Time: 4:30 Ctrl. # 374-3118

Subject: Sea Dumping of Septage

Dear Administrator Hondrade:

We write pursuant to your letter dated 05 September 2003 requesting MWSI to formally inform MWSS of our position on the suggestion made during the 10<sup>th</sup> World Bank Supervision Mission Meeting for modifications to be made in the sea dumping component of the MSSP.

Due to the uncertainty in the issuance of the required permit by the Philippine Coast Guard, we are recommending the cancellation of the said sea dumping component of the MSSP. However, we reiterate our position, as stated in our letter to MWSS dated 28 August 2003, that MWSI may not unilaterally effect changes or adjustments in MSSP's performance indicators or in the implementation of the project itself since any such change or adjustment will have an impact on the Service Targets under the Concession Agreement.

Please be advised that we shall also refer the foregoing matter to the Regulatory Office.

Very truly yours,

*Handwritten signature of Arnulfo R. Ramirez*  
**ARNULFO R. RAMIREZ**  
Chief of Staff *WR*

METROPOLITAN WATERWORKS & SEWERAGE SYSTEM  
OFFICE OF THE DEPUTY ADMINISTRATOR

SEP 16 2003

TIME: 9:30 am  
RECEIVED BY: [Signature] 38-77

MWSS Compound, Katipunan Road, Balara, Quezon City Telephone No. 920-5521



Republika ng Pilipinas  
**PANGASIWAAN NG TUBIG AT ALKANTARIYA SA METRO MANILA**  
 Metropolitan Waterworks and Sewerage System  
 Katipunan Road, Balara, Quezon City 1105, Philippines

September 5, 2003

**MR. RAFAEL M. ALUNAN**  
 President, Maynilad Water Services Inc.  
 Katipunan Road, Balara  
 Quezon City

Maynilad Water Services Inc.  
**RECEIVED**  
 SEP 05 2003  
 Office of the President

Attention: Col. Romeo R. Posadas *- m&g/k*  
 Head, Project Management Group

Subject: **Manila Second Sewerage Project**  
**Sea Dumping of Septage**

Dear Mr. Alunan:

As discussed during the Tenth World Bank Supervision Mission for MSSP, we would like to be formally informed of the MWSI position on the Sea Dumping of Septage component of MSSP.

Should your Office intend to pursue this component, please also give us the specific follow-up actions with the corresponding time lines which your Office will undertake to facilitate implementation.

We would appreciate receiving your reply not later than 12 September 2003 as we have to endorse it to the WB soonest.

Very truly yours,

*[Signature]*  
**ORLANDO C. HONDRADE**  
 Administrator *OH*

Cc: Col. Romeo R. Posadas  
 MWSI

*To: Ruffy Agudo*  
*Please handle.*  
*[Signature]*

SEP 11 2003

MAYNILAD WATER SERVICES, INC.  
 OPERATION'S DIVISION  
**CORRES - IN**  
 RECD: *6/5* DATE

FAA *Crut* 9/9/03

2P/MRR ml w/m an

**The World Bank**  
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street N.W.  
Washington, D.C. 20433  
U.S.A.

(202) 473-1000  
Cable Address: INTBAFRAD  
Cable Address: INDEVAS

September 19, 2003

Honorable Orlando C. Hondrade  
MWSS Administrator  
Katipunan Road, Balara, Quczon City

*Subject: Letter of Timpuyog Zambales, Inc. on the MSSP activities in Manila Bay*

Dear Mr. Hondrade:


We would like to endorse to you a letter sent to us by Timpuyog Zambales, Inc., an advocacy group, expressing their sentiments regarding the sea dumping activities undertaken by the MSSP.

We suggest you and everyone concerned to meet with this group regarding their concerns with the MMT led by DENR, BFAR, PCG and the private concessionaires. Please send a written clarification to Timpuyog Zambales summarizing the agreement during the meeting, with copy four files.

Please find attached their letter and other supporting documents for your reference.


Please feel free to contact us in case you need our assistance.

Sincerely,

  
Luis Tevares  
Task Team Leader  
Senior Water and Sanitation Specialist  
Urban Development Unit  
East Asia and the Pacific Region.

CC: Timpuyog Zambales, Inc.,

RCA 248429 ☐ WUI 64145 ☐ FAX (202) 477-6391

**M** Engineering & Project Management Dept.  
**W**  
**S** SEP 23 2003  
**S** Received by:   
**S** Time: 8:45 Ctrl. # 582-71



**ANNEX 4**  
**OCTOBER 15, 2003 LETTER FROM THE BANK TO MWSS**  
**WITH AMENDMENTS TO THE LOAN AGREEMENT –**  
**COUNTERSIGNED BY MWSS ON OCTOBER 17, 2003 AND BY THE**  
**GOVERNMENT OF THE PHILIPPINES ON DECEMBER 10, 2003 AND**  
**SUBSTITUTED ON DECEMBER 18, 2003 FOR THE**  
**EARLIER UNSIGNED LETTER**



October 15, 2003

Hon. Secretary Jose Isidro N. Camacho  
Department of Finance  
Department of Finance Building  
Roxas Blvd.  
Manila, Republic of the Philippines

SCANNED FILE COPY			
Accession No.		Box No.	
FPN	Date	DEC 2003	Log No.
Action	cc		
Drawer: AAA & Stand Country Info./General			
Donor-Aid Coord./Internal Orders /Lending			
Topical / Adm. 7004611			
Folder / Sub-folder: legal doc.			

METROPOLITAN WATERWORKS  
& SEWERAGE SYSTEM  
ADMINISTRATOR'S OFFICE

RECEIVED BY:

SOL Tolentino

10-17-03

2:40 P.M.

Mr. Orlando C. Hondrade  
Administrator,  
Metropolitan Waterworks and Sewerage System  
Katipunan Road, Balara, Quezon City 1105  
Republic of the Philippines

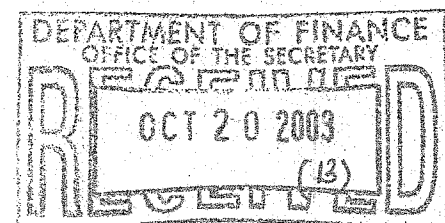
**Re: Manila Second Sewerage Project (Ln 4019-PH)**  
**Amendments to the Loan Agreement**

Dear Secretary Camacho and Mr. Hondrade:

We refer to the Loan Agreement between the Metropolitan Waterworks and Sewerage System (the Borrower) and the International Bank for Reconstruction and Development (the Bank) dated June 16, 1996, as amended.

We also refer to the Borrower's letter dated December 10, 2002, and the Guarantor's letter dated April 28, 2003, requesting, among others, a revision of the performance indicators. We further acknowledge receipt of the Borrower's letter dated September 30, 2003, proposing to the Bank the cessation of sea dumping of septage as an aspect of septage management under the Project, according to discussions held during the Tenth Supervision Mission of the Project among the Borrower, the Bank and the Concessionaires, Manila Water Company, Inc. (MWCI) and Maynilad Water Services, Inc (MWSI).

It is the Bank's understanding that, after a trial period, there has been no further sea dumping as of June 2002. We note that a contract has been signed on September 1, 2003, for the construction of a septage treatment plant in Dagan-Dagatan with a capacity of 400 m<sup>3</sup>/day, due to be completed by December 2004, and financed under the Project. We also understand that a septage treatment plant to be located in Antipolo, and financed by the Asian Development Bank, at a capacity of 600 m<sup>3</sup>/day will be operational by December 2005.



We further note that, in the meantime, MWCI is utilizing land dumping in volcanic lahar sites at Pampanga (conducted by the Luzon Agricultural Research and Extension Center of the Sugar Regulatory Administration in Paguiruan), Floridablanca, and in other areas in Concepcion and Tarlac, in collaboration with, and with the full support of, the farmer's groups and the local government units.

Although the delay in treatment plant construction and the cessation of sea dumping will temporarily delay the expected benefits of the Project in reducing septage content of the septic tanks, and hence the reduction of organic pollution of waters around Metro Manila, with the completion of the plants and the continuation of satisfactory operation of the lahar disposal method, the benefits are expected to be fully achieved by the Project's closing date, and be sustainable thereafter.

We also note that, in accordance with the amendment to the Loan Agreement dated November 12, 2002, the Borrower is undertaking further proactive measures to construct a number of smaller, community level treatment facilities in high-density urban areas. These measures are expected to further reduce the pollution of waters in Metro Manila.

The Bank, therefore, is pleased to inform you that, after due consideration, it agrees with your proposal to cease sea disposal of septage under the Project and to amend the Loan Agreement to reflect such cessation by removing the reference to septage trials, by deleting the reference to the construction of the Parañaque barge-loading station, and by updating the performance indicators.

Schedule 2 to the Loan Agreement is amended as follows:

1. Paragraph 1 of Part A of Schedule 2 to the Loan Agreement is amended to read:

"1. Construction of a barge loading station at Napindan with a capacity to transfer about 500 cubic meters per day of septage from collecting vehicles to barges."

2. Paragraph 2 of Part B of Schedule 2 to the Loan Agreement is amended to read:

"2. Construction of a barge-loading station at Estero de vistas with a capacity to transfer about 500m<sup>3</sup>/d of septage from collecting vehicles to barges."

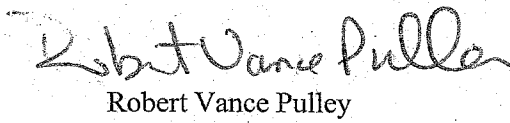
Schedule 6 to the Loan Agreement is amended to read as set forth in the annex to this letter.

I am copying this letter to MWCI and MWSI for their information.



Please confirm your agreement to the foregoing amendments by signing and dating the enclosed duplicate of this letter in the space provided, and by returning it to us. The above amendments will become effective as of the date of confirmation.

Yours sincerely,

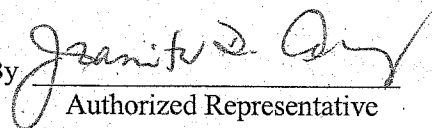


Robert Vance Pulley  
Country Director, Philippines  
East Asia and Pacific Region

cc: Mr. Antonino T. Aquino, President, Manila Water Company, Inc  
Mr. Rafael M. Alunan, President, Maynilad Water Services Inc.

AGREED:

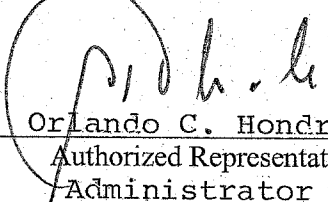
REPUBLIC OF THE PHILIPPINES

By   
Authorized Representative

Date: December 10, 2003

AGREED:

METROPOLITAN WATERWORKS  
AND SEWERAGE SYSTEM

By   
Orlando C. Hondrade  
Authorized Representative  
Administrator

Date: October 17, 2003

ANNEX

Performance Indicators

Year  
2001

Year  
2003

Year  
2005

A. WEST SERVICE AREA – MAYNILAD WATER SERVICES INC.

1. Provision of Sewerage Services

Population with sewer connections (expressed as a percentage of the total population in the service area connected to the concessionaire's water system at the time of target) 11% 11% 12%

Population with septic tanks cleaned (expressed as a percentage of the total population in the service area connected to the Concessionaire's water system at the time of target) <1% 2% 6%

2. Improvement of the Environment

Septage treated, including from the mobile dewatering units (m3/day) 21 21 400

Septage disposed of at environmentally designed site (m3/day) 0 200 0

3. Quality of Service, Customer Relations

Number of responses Zero backlog at the end of the year Zero backlog at the end of the year Zero backlog at the end of the year

Response time Within 3 to 5 days of complaint Within 3 to 5 days of complaint Within 3 to 5 days of complaint

B. EAST SERVICE AREA – MANILA WATER COMPANY INC.

1. Provision of Sewerage Services

Population with sewer connections (expressed as a percentage of the total population in the service area connected to the concessionaire's water system at the time of target) 3% 3% 8%

Population with septic tanks cleaned (expressed as a percentage of the total population in the service area connected to the Concessionaire's water system at the time of target) <1% 2% 4%

2. Improvement of the Environment

Septage disposed of at environmentally designed site (m3/day) 0 200 200

3. Quality of Service, Customer Relations

Number of responses Zero backlog at the end of the year Zero backlog at the end of the year Zero backlog at the end of the year

Response time Within 3 to 5 days of complaint Within 3 to 5 days of complaint Within 3 to 5 days of complaint

**ANNEX 5.  
CHRONOLOGY OF PROJECT EVENTS AND SUMMARY OF CONSULTATIONS**

**Chronology of Project Events**

<b>Date</b>	<b>Meeting</b>
December 1994 – March 1995	MSSP EIA report submitted.
October 9 – 10, 1996	Consultations in 5 barangays in Bataan and Zambales which will host the sampling stations for the coastal water quality monitoring.
April 19, 1996	1 <sup>st</sup> request for Provincial LGU endorsement.
October 10, 1996	ECC issued.
February 17, 1997	1 <sup>st</sup> MMT meeting.
July 27, 1998	2 <sup>nd</sup> request for Zambales Provincial LGU endorsement.
June 30, 1999	2 <sup>nd</sup> MMT meeting.
November 9, 1999	3 <sup>rd</sup> request for Zambales Provincial LGU endorsement.
January 12, 2000	Bataan Governor signed endorsement.
February 21, 2000	Presentation to the Zambales Provincial Board.
April 3, 2000	Cavite Governor signed endorsement.
June 5, 2000	Provided MSSP documents to Zambales Office of the Governor and Provincial Board.
July 20, 2000	Zambales Governor signed endorsement.
February 28, 2001	MMT meeting at the MWSS Board Room, presentation on proposed MMT creation per ECC.
March 16, 2001	MMT meeting, draft MOA was presented to the members.
May 24, 2001	EMP was distributed during MMT meeting.
June 8, 2001	MMT meeting held in MWSS Conference Room.
July 6, 2001	MMT meeting held at Napindan Barge Loading Station.
August 10, 2001	MMT meeting in DENR EMB office to discuss Annual Monitoring Plan.
October 19, 2001	MMT meeting in Capitol Hills. MMT members informed that MOA approved by MWSS Board of Trustees.
November 16, 2001	MMT members workshop, DENR and LLDA did not attend. MOA revised, ceremonial signing scheduled for Dec 2001.
January – March 2002	MOA signed by MWSS, MWSI, MWCI. Ceremonial signing did not take place.
April 22, 2002	Visit to Zambales Governor to present MOA.
April 29, 2002	Visit to Provincial Board to present MSSP but not tabled in meeting.
May 2, 2002	MOA signed by DPWH.
May 6, 2002	MOA signed by Cavite.
May 13, 2002	Presentation by MWSI to Zambales Provincial Board in order to obtain signature in MOA. The Provincial Board advised MWSS that the committee on Environmental will evaluate the project.
May 28, 2002	Meeting with DENR EMB re Zambales non-signing. MMT is still valid and project monitoring will continue.
June 13, 2002	MOA signed by LLDA.
June 14, 2002	Meeting between MWSS and BFAR. BFAR expresses objection to the project.
June 17, 2002	Bataan Provincial Board creates a Resolution opposing the dumping of septage by MWSS within the jurisdiction of Bataan.
June 27, 2002	Meeting of MWSS, MWCI and MWSI with TIMPUYOG in Zambales to discuss MSSP.
July 1, 2002	MOA signed by DOH. MWSS and MWCI met with DENR EMB to invite them for the next MMT meeting.
July 2, 2002	MWSS presented the project during the Public Hearing in Zambales. The Vice-Governor, facilitator of the meeting, advised MWSS that they will discuss among themselves and will advise MWSS on their decision.

Date	Meeting
July 5, 2002	MMT meeting discussed formation of Sectoral Monitoring Teams. 3 representatives from Zambales (TIMPUYOG, beach owners and ENROZ). MWSS/ MWCI and MWSI mentioned that they are ready to provide the Environmental Monitoring Fund.
October 30, 2002	Public hearing at the Provincial Capitol, Iba, Zambales.
November 19, 2002	MMT meeting at DENR EMB Conference Room.
May 21, 2003	MMT meeting at DENR EMB with MOA signatories in attendance.

**Summary of Consultations**

Date	Groups Consulted
<b>Preparation of the EIA</b>	
April 25, 1994	<i>Manila based POs including fisherfolk in Manila Bay</i> Sawata, SAMAKA, Samahang Nanawagan, Samahang Tabing Ilog, LRTB, Samahang Kzapit, Dina, Inc. Sa Ama, Inc.
June 24, 1994	<i>Kalookan community members</i> 2 barangays surrounding the Dagat-Dagatan Sewage Treatment Plant - 205 persons (5% of 22,300 population. from Barangays 34 and 35 of Kalookan City
May 25, 1995	<i>Metro Manila Local Government Units</i> Navotas, Manila, Makati, Quezon City, Valenzuela, Parañaque, Las Pinas, Taguig, Marikina, Kalookan, Pasig, Mandaluyong, San Juan, Pasay, Muntinlupa
Dec. 8, 1995	<i>Manila based NGOs</i> Earth Savers, PCPGE, IRF, PBE, Sagip Pasig, Miriam PEACE, UP Marine Science
October 9, 1996	<i>Municipalities in Zambales</i> Subic, San Narciso, Iba
October 10, 1996	<i>Municipalities in Bataan</i> Morong, Mariveles
<b>Project Implementation</b>	
April 4, 2000	Bataan Provincial Board
July 2, 2002 (in Zambales)	8 LGU-Zambales barangays, 20 different Beach Owners, 2 Timpuyog officers, 4 Dept. of Tourism staff, 1 newspaper representative
July 5, 2002	MMT meeting with 2 NGO observers, Timpuyog - Zambales and Beach Owners Association (ZROA) - MWSS, MWCI, MWSI, LGU Zambales, DOH, LGU Bataan, DPWH, BFAR, , LLDA, Cavite, PCG

**ANNEX 6.**  
**MONITORING ACTIVITIES AND THE MULTIPARTITE MONITORING TEAM**

**A. Terms of Reference of Project Monitoring Activities**

1. Monitoring activities shall be undertaken at least quarterly by the MMT and monthly by MWSS, MWCI, and MWSI in accordance with the requirements of the ECC and Environment Monitoring Plan. Monitoring may also be undertaken during or after completion of ECC compliance milestone.
2. DENR-approved methods of analysis as well as sampling and handling methods shall be observed and properly documented by MMT.
3. Acceptable transport and handling methods shall be observed and properly documented.
4. Sampling and observation areas shall be selected from stations identified in the Environmental Impact Assessment for the PROJECT. However, other alternative sites shall be considered whenever appropriate.
5. At least two (2) sets of samples shall be collected. The first set of samples will be analyzed by the DENR laboratory or a DENR-recognized laboratory. The second set of samples will be analyzed by the laboratory of either MWCI or MWSI.
6. The DENR laboratory or at least two (2) other DENR-recognized laboratories shall be considered as the official laboratory of the MMT.
7. In case of question(s) on specific monitoring results, an independent DENR-recognized laboratory acceptable to the MMT shall be used for validation purposes with the costs of chemical analysis and logistical support for handling and transport chargeable against the EMF. The quantity of samples and the cost of tests shall be agreed upon on a case by case basis.
8. All monitoring activities shall be photo-documented. Every monitoring report shall include such photographs.
9. Briefing of MMT members on the PROJECT status shall be done by MWSS/MWCI/MWSI prior to monitoring.
10. A monthly meeting by the MMT shall be held to discuss observations/concerns, findings and content(s) of monitoring report.
11. Members of the MMT shall decide on matters/issues by simple majority.
12. The MMT may develop such other Operating Guidelines necessary to ensure effective monitoring.
13. The MMT Chairperson, or at least three (3) members of the MMT, can call for a special or emergency meeting, otherwise, a regular meeting shall, at the minimum, be scheduled quarterly.
14. Any decision or approval by the MMT shall require a majority vote, provided there is a quorum. A quorum shall require the presence of more than half of the members, including, at all times, the representatives of the DENR and the MWSS, MWCI, MWSI.
15. The MMT has the option to call experts to give technical advice.

**B. Legal Authority for Creation of the MMT**

**DENR Dept Admin Order 96-37, Implementing Rules & Regulations of EIA Law - PD 1586, Section 10.0 of Article IV: Compliance Monitoring:**

a. A multi-partite monitoring team (MMT) shall be formed, immediately after the issuance of an ECC pursuant to an EIS. The MMT shall be principally tasked to undertake monitoring of compliance with the ECC conditions, the EMP and applicable laws, rules and regulations.

**Section 11.0 of Article IV: Composition of the MMT:**

The composition of the MMT and their responsibilities shall be provided in a Memorandum of Agreement (MOA) negotiated by the proponent, the DENR and the major stakeholders. In all cases, the MMT shall be composed of representatives of the proponent and of a broad spectrum of stakeholder groups, including representatives from the Local Government Units, NGOs/POs, the community, women sector, concerned PENRO and CENRO, with support from the Regional Office and/or the EMB, whenever necessary, the academe, relevant government agencies, and other sectors that may be identified in the negotiations leading to the execution of the MOA.

**C. Responsibilities of the MMT Members**

MMT Member	Specific Roles, Duties and Responsibilities
Environmental Management Bureau of the DENR (EMB)	<ul style="list-style-type: none"> <li>• Shall be responsible for policy formation, evaluation of monitoring results, resolution of issues where consensus or decisions cannot be made at the regional level and the provision of needed support for the operationalization of the MMT.</li> </ul>
Department of Environment and Natural Resources (DENR) Region III and IV	<ul style="list-style-type: none"> <li>• Shall act as the lead agency in the monitoring work and shall coordinate their tasks to ensure an efficient monitoring of the entire PROJECT.</li> <li>• Shall make recommendations/appropriate action(s) to resolve issues/problems and concur with monitoring reports.</li> <li>• DENR-Regional Offices shall provide technical assistance and participate in the activities of the MMT, whenever necessary.</li> </ul>
Metropolitan Waterworks and Sewerage System (MWSS) Manila Water Company Inc. (MWCI) Maynilad Water Supply Inc. (MWSI)	<ul style="list-style-type: none"> <li>• Provide necessary funds for the monitoring activities.</li> <li>• Make available to the MMT information relevant to the determination of compliance with the ECC by the PROJECT.</li> <li>• Grant permission to MMT members to inspect and observe operation activities of the PROJECT including testing, calibration and operation of pollution control and in-house monitoring equipment during business hours and after receiving notice of such inspection from the MMT.</li> <li>• Participate during the monitoring reports.</li> <li>• Concur with and sign then monitoring reports.</li> <li>• Coordinate with the other concerned agencies.</li> <li>• Proper information dissemination regarding the project to fisherfolks and other stakeholders.</li> </ul>
Department of Health (DOH)	<ul style="list-style-type: none"> <li>• Shall make monthly report to the MMT based on the reports of public health monitoring conducted by concerned Local Government Units (Bataan, Cavite, Zambales and NCR) in their respective areas of responsibility. However, DOH shall conduct monitoring and evaluation activities in accordance with the said Local Government Units during resolution of issues and concerns of the affected communities.</li> </ul>
Department of Public Works and Highways (DPWH)	<ul style="list-style-type: none"> <li>• Shall monitor for any septage overflows from vacuum trucks.</li> </ul>
Bureau of Fisheries and Aquatic Resources (BFAR)	<ul style="list-style-type: none"> <li>• Shall be responsible for monitoring of fish and aquatic population that may be affected by septage dumping. Any change in the vital oceanographic parameters such as but not limited to marine biota, abundance and distribution that may affect health and quality of the fish and catch effort which may be attributed to the project shall be reported and recommended to DENR.</li> </ul>

MMT Member	Specific Roles, Duties and Responsibilities
Laguna Lake Development Authority (LLDA)	<ul style="list-style-type: none"> <li>• Shall be responsible for monitoring of the project components/facilities relative to its mandate in its area of jurisdiction. This shall include but not limited to the following: ambient river quality monitoring in the pre-determined locations in the Pasig River; regular monitoring of Project facilities (i.e., Napindan Barge Loading Station); and issuance of applicable permit/clearance subject to compliance with requirements.</li> </ul>
Metro Manila Development Authority (MMDA)	<ul style="list-style-type: none"> <li>• Shall monitor traffic flows at the barge loading stations.</li> <li>• Shall review the scheduling for vacuum trucks to ensure that present traffic flow not be significantly affected by the additional vacuum tankers' traffic loads.</li> </ul>
Philippine Coast Guard (PCG)	<ul style="list-style-type: none"> <li>• Provide adequate escorts on exact location of sea dumpsites and monitor that proper dumping operation is carried out by dumping barge companies.</li> <li>• Ensure worthiness of barges that will be utilized in the dumping operation and as such, the required vessel's safety documents and devices/equipment are on board the barges.</li> <li>• Issue the necessary dumping permit and appropriate departure clearance to the barges at every dumping operations as requested by the barges' master, who shall thereafter render After Dumping Report to CPGG after the dumping operations.</li> </ul>
Principal Government Units of Cavite, Bataan and Zambales and NGOs	<ul style="list-style-type: none"> <li>• Shall be the watchmen of the project.</li> <li>• Shall assist in public information to the Sectoral Monitoring Teams</li> <li>• Participate during monitoring and audit activities</li> <li>• Concur/sign the monitoring reports.</li> </ul>





**ANNEX 7.  
MSSP SUPERVISION MISSIONS<sup>8</sup>**

Dates of Visits	Members of the Team (by Function)
<b>August 26 to September 9, 2003</b> <b>10<sup>th</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Water and Sanitation Specialist/Task Team Leader</li> <li>• Procurement and Disbursement Operations Officer</li> <li>• Environment Operations Officer</li> <li>• Financial Management Operations Officer</li> <li>• Social Safeguards Operations Officer</li> <li>• Consultant</li> </ul>
<b>October 23 to 30, 2002</b> <b>9<sup>th</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Water and Sanitation Specialist/Task Team Leader</li> <li>• Procurement and Disbursement Operations Officer</li> <li>• Environment Operations Officer</li> <li>• Community Participation/Civil Society Relations Officer</li> <li>• Financial Management Assistant</li> <li>• Environmental Consultant</li> </ul>
<b>February 13 to 26, 2002</b> <b>8<sup>th</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Water and Sanitation Specialist/Task Team Leader</li> <li>• Sr. Environmental Specialist</li> <li>• Procurement and Disbursement Operations Officer</li> <li>• Environment Operations Officer</li> <li>• Consultant</li> </ul>
<b>May 25 to June 8, 2001</b> <b>7<sup>th</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Water and Sanitation Specialist</li> <li>• Sr. Private Finance Specialist</li> <li>• Procurement and Disbursement Operations Officer</li> </ul>
<b>November 28- December 28, 2000</b> <b>6<sup>th</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Operation Core Services/Task Team Leader</li> <li>• Water and Sanitation Specialist</li> <li>• Procurement and Disbursement Operations Officer</li> <li>• Environment Operations Officer</li> </ul>
<b>April 12 to 24, 2000 and</b> <b>May 24 to 29, 2000</b> <b>5<sup>th</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Operation Core Services/Task Team Leader</li> <li>• Environment Operations Officer</li> <li>• Consultant-Financial Management</li> </ul>
<b>February 14 to 22, 2000</b> <b>4<sup>th</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Operation Core Services/Task Team Leader</li> <li>• Water and Sanitation Specialist</li> <li>• Manager of WB's Water and Sanitation Program (Sewerage/Sanitation for Low-Income Communities)</li> <li>• Procurement and Disbursement Operations Officer</li> </ul>
<b>June 22 to 29, 1999</b> <b>3<sup>rd</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Operation Core Services/Task Team Leader</li> <li>• Water and Sanitation Specialist</li> <li>• Manager UNDP/WB's Water and Sanitation Program (Resettlement)</li> <li>• Procurement and Disbursement Operations Officer</li> </ul>
<b>January 26 to February 1, 1999</b> <b>2<sup>nd</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Operation Core Services/Task Team Leader</li> <li>• Resettlement Specialist</li> <li>• Procurement and Disbursement Operations Officer</li> </ul>
<b>August, September, October, 1998 (8 days)</b> <b>1<sup>st</sup> Supervision Mission</b>	<ul style="list-style-type: none"> <li>• Operation Core Services/Task Team Leader</li> <li>• Water and Sanitation Specialist</li> <li>• Procurement and Disbursement Operations Officer</li> </ul>
<b>October 27 to November 8, 1997</b> <b>Restructuring Mission</b>	

<sup>8</sup> In addition to formal supervision missions, Bank staff based in Manila have been following Project implementation since 2000.