



INTERNAL AUDIT DIVISION

REPORT 2015/068

Audit of waste management in the
United Nations Stabilization Mission in
Haiti

Overall results relating to the effective
management of waste in the United Nations
Stabilization Mission in Haiti were initially
assessed as unsatisfactory. Implementation
of two critical recommendations remains in
progress

FINAL OVERALL RATING: UNSATISFACTORY

30 June 2015

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AUDIT REPORT

Audit of waste management in the United Nations Stabilization Mission in Haiti

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of waste management in the United Nations Stabilization Mission in Haiti (MINUSTAH).
2. In accordance with its mandate, OIOS provides assurance and advice on the adequacy and effectiveness of the United Nations internal control system, the primary objectives of which are to ensure: (a) efficient and effective operations; (b) accurate financial and operational reporting; (c) safeguarding of assets; and (d) compliance with mandates, regulations and rules.
3. Waste management activities in MINUSTAH were governed by the Department of Peacekeeping Operations/Department of Field Support (DPKO/DFS) environmental policy, the DPKO/DFS waste management policy dated 1 October 2014, and the MINUSTAH standard operating procedures on waste management.
4. The Mission's Environmental Compliance Unit was responsible for environmental oversight and the Engineering Section was responsible for providing technical support to ensure effective management of waste. The Water and Sanitation Unit, and Operations and Contract Management Unit of the Engineering Section were responsible for the management of wastewater and solid waste respectively. These two units had 52 staff comprising 4 international staff, 9 national staff, 3 United Nations volunteers and 36 individual contractors. The operational budgets for the management of wastewater and solid waste for fiscal years 2012/13 and 2013/14 were \$1.8 million and \$1.9 million respectively.
5. In response to the 2010 cholera outbreak in Haiti, on 27 February 2013, the Government of Haiti launched a 10-year National Plan including a 2-year Operational Plan for the elimination of cholera in Haiti. On 15 November 2013, the Special Representative of the Secretary-General for Haiti launched special initiatives that required MINUSTAH to support and coordinate with the government in implementing the national/operational plan.
6. Comments provided by MINUSTAH are incorporated in italics.

II. OBJECTIVE AND SCOPE

7. The audit was conducted to assess the adequacy and effectiveness of MINUSTAH governance, risk management and control processes in providing reasonable assurance regarding the **effective management of waste in MINUSTAH**.
8. The audit was included in the 2014 risk-based work plan of OIOS because of operational, health and reputational risks relating to the management of waste in MINUSTAH.
9. The key controls tested for the audit were: (a) regulatory framework; and (b) coordinated management. For the purpose of this audit, OIOS defined these key controls as follows:

(a) **Regulatory framework** - controls that provide reasonable assurance that policies and procedures: (i) exist to guide the management of waste in MINUSTAH; (ii) are implemented consistently; and (iii) ensure the reliability and integrity of operational information; and

(b) **Coordinated management** - controls that provide reasonable assurance that potential overlaps in managing waste are mitigated, and that issues affecting or involving other United Nations partners and actors are identified, discussed and resolved in a timely manner and at the appropriate forum.

10. The key controls were assessed for the control objectives shown in Table 1.

11. OIOS conducted the audit from July to December 2014. The audit covered the period from 1 July 2012 to 30 June 2014 and focused on the management of wastewater and organic waste. The audit also reviewed MINUSTAH stewardship and coordination of cholera response activities.

12. OIOS conducted an activity-level risk assessment to identify and assess specific risk exposures, and to confirm the relevance of the selected key controls in mitigating associated risks. Through interviews and analytical reviews, OIOS assessed the existence and adequacy of internal controls and conducted necessary tests to determine their effectiveness.

III. AUDIT RESULTS

13. The MINUSTAH governance, risk management and control processes examined were initially assessed as **unsatisfactory**¹ in providing reasonable assurance regarding the **effective management of waste in MINUSTAH**. OIOS made seven recommendations to address the issues identified. MINUSTAH: installed 32 modular treatment plants for onsite treatment of its wastewater; constructed several wastewater infrastructures including 38 septic tanks, 55 soak pits and 54 grease traps; and provided training on waste management to staff. However, MINUSTAH needed to: (a) adequately maintain wastewater treatment plants; (b) ensure that recommendations for maintenance of wastewater treatment plants are acted on when laboratory tests show that established key quality parameters are not being met; (c) discontinue discharging wastewater into public canals; (d) regularly inspect and maintain wastewater infrastructure including septic tanks; (e) inspect and monitor disposal activities of waste contractors; (f) ensure that unoccupied sites are cleaned in a timely manner; and (g) update its environmental action plan.

14. The initial overall rating was based on the assessment of key controls presented in Table 1. The final overall rating is **unsatisfactory** as implementation of two critical recommendations remains in progress.

¹ A rating of “**unsatisfactory**” means that one or more critical and/or pervasive important deficiencies exist in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

Table 1: Assessment of key controls

Business objective	Key controls	Control objectives			
		Efficient and effective operations	Accurate financial and operational reporting	Safeguarding of assets	Compliance with mandates, regulations and rules
Effective management of waste in MINUSTAH	(a) Regulatory framework	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
	(b) Coordinated management	Satisfactory	Satisfactory	Satisfactory	Satisfactory
FINAL OVERALL RATING: UNSATISFACTORY					

A. Regulatory framework

There was a need to treat and manage wastewater adequately and dispose of it appropriately

15. MINUSTAH standard operating procedures required the Engineering Section to properly maintain wastewater treatment plants. The manufacturer’s operating manual for treatment plants required: (a) thorough cleaning of the membrane once a year; and (b) replacement of the ultra violet tube after 9,000 hours of operation. An analysis of the Engineering Section’s database on the frequency of membrane cleaning indicated that the membranes of only 15 of the 32 treatment plants were cleaned in 2013 and 10 were cleaned from January to June 2014. Also, MINUSTAH had not maintained records as to whether it had replaced the ultra violet tubes after the prescribed 9,000 hours of operation.

16. The MINUSTAH environmental policy required the Mission to ensure that wastewater met specific standards before being discharged into local water bodies. The MINUSTAH laboratory was responsible for testing eight quality parameters and for testing for the presence of fecal coliform² to ensure treated wastewater met the established water quality parameters. From May 2013 to June 2014, laboratory test results of the water produced from the 32 treatment plants indicated that 23 plants (71 per cent) did not meet one or more of the eight key quality parameters such as biological oxygen demand, turbidity and acidity. Laboratory tests also indicated that treated wastewater from six plants contained fecal coliform.

17. At 7 of the 31 sites visited, MINUSTAH was discharging its treated wastewater into public canals. The laboratory test results of these 7 sites indicated that a number of key water quality parameters established by MINUSTAH were not met. MINUSTAH advised that its parameters were more stringent than the parameters set by other international bodies such as the World Health Organization, North Atlantic Treaty Organization and European Union. However, when compared against the standards accepted by these bodies, one or more of the eight quality parameters of treated water discharged into canals by MINUSTAH exceeded the maximum allowable value.

18. In one of the sites visited, the canal originated from outside neighborhoods before treated water was discharged into it. There were also two other sites where public canals that originated from outside neighbourhoods ran through the Mission’s premises. MINUSTAH did not test the quality of water in these canals prior to the discharge of MINUSTAH treated water and was therefore not in a position to

² Fecal coliform is an indicator of fecal contamination or presence of pathogens in feces.

determine if any contamination found in the canal after the MINUSTAH discharge arose from that discharge or was already present.

19. The above resulted as the Engineering Section did not have an effective mechanism to track and ensure that the required maintenance of water treatment plants was regularly scheduled and completed in a timely manner, and the Water and Sanitation Unit was not implementing recommendations made by the MINUSTAH laboratory to urgently maintain those plants that were not meeting key quality parameters. For example, the laboratory had recommended, in 5 out of 14 months (from May 2013 to June 2014), that these plants be urgently maintained.

20. Discharging wastewater that did not meet established quality parameters exposed the local population to an increased health risk, and MINUSTAH to environmental and reputational risks. Failure to effectively maintain water treatment plants contributed to all of these risks. There was also an unmitigated risk of MINUSTAH being held accountable for water contamination coming from public canals that may have been contaminated from outside sources and for which MINUSTAH was not responsible.

(1) MINUSTAH should take steps to adequately monitor compliance with wastewater plant maintenance schedules to ensure critical parts are cleaned and/or replaced.

MINUSTAH accepted recommendation 1 and stated that the required maintenance work including chemical cleaning and replacement of critical parts as stipulated in the operations manual of the wastewater treatment plants had been taking place on a regular basis. It had also updated its standard operating procedures to strengthen its monitoring of plant maintenance, as well as devised a plant maintenance schedule and log-book recording work done. Based on the action taken by MINUSTAH, recommendation 1 has been closed.

(2) MINUSTAH should implement procedures for ensuring that recommendations for maintenance are acted on when laboratory tests show that established key quality parameters are not being met.

MINUSTAH accepted recommendation 2 and stated that it had updated its standard operating procedures to include additional monitoring, with laboratory reports being sent to the Chief of the Integrated Support Services for review and appropriate action. Recommendation 2 remains open pending receipt of satisfactory evidence that the standard operating procedures are being effectively implemented to ensure that laboratory recommendations relating to treated wastewater that did not meet established quality parameters are being adequately acted upon.

(3) MINUSTAH should discontinue discharging wastewater into public canals, or if there is no alternative, establish a procedure to regularly perform water quality tests.

MINUSTAH accepted recommendation 3 and stated that since 24 April 2015 no water was discharged from any its camps. The treated waste water was collected into water bladders and then reused for dust control, irrigation and washing equipment inside the mission compound. Based on the action taken by MINUSTAH, recommendation 3 has been closed.

Wastewater infrastructure was not regularly inspected and maintained

26. MINUSTAH standard operating procedures required the Engineering Section to build and maintain wastewater treatment facilities, as well as septic tanks, soak pits and filtration systems for effective management of wastewater. The prescribed maintenance included periodic desludging and

removal of solids from septic tanks and chlorinating chambers. The DPKO/DFS waste management policy and MINUSTAH procedures required regular inspections of wastewater treatment sites and appropriate maintenance of the various facilities, tanks and systems to ensure proper operation.

27. During its visits to sites, OIOS observed: (a) overflow of black water³ from the holding tanks of two treatment plants; (b) seepages of grey water⁴ released into the surrounding environment in seven sites; (c) a number of septic tank manholes that either did not have covers or were covered by temporary materials; and (d) in one camp, there was an overflow of grey water from a soak pit because an accumulation of kitchen waste blocked its release as a grease trap had not been put in place to collect such waste.

28. A review of laboratory tests from May 2013 to June 2014 indicated that an average of 21 sites was recommended to be chlorinated each month; but these recommendations were not acted on. MINUSTAH advised that the laboratory recommendations were not accurate as wastewater treatment plants and soak pits did not need regular cleaning, and the laboratory results were based on wrong parameters and inaccurate procedures for sample collection. Nonetheless, the Engineering Section had not taken corrective action to ensure the accuracy of laboratory results and recommendations.

29. The above conditions indicated that MINUSTAH regional engineers did not conduct adequate inspection of sites to ensure regular cleaning, repairs, renovations and assessment of adequacy of capacity of wastewater infrastructure. As a result, black and grey water seeped into the local environment, increasing the risk of water contamination.

(4) MINUSTAH should take action to ensure that wastewater facilities are regularly inspected and the required cleaning, repairs and capacity enhancements are dealt with in a timely manner.

MINUSTAH accepted recommendation 4 and stated that it had issued guidance to the concerned Mission components and amended its standard operating procedures. These guidance and procedures clearly defined the roles and responsibilities of each concerned personnel for ensuring that the required cleaning, repairs and capacity enhancement can be dealt with in a timely manner. Recommendation 4 remains open pending OIOS verification that the new guidance and procedures are being implemented to ensure wastewater facilities are adequately maintained.

The solid waste contractor was not disposing of waste at government-approved sites

30. The Environmental Laws of Haiti required all waste disposal sites to be approved at the following three levels: (a) the town mayor; (b) the National Office for Drinking Water and Sanitation (DINEPA); and (c) the Ministry of Environment. MINUSTAH waste disposal contracts required contractors to dispose of waste only at government-approved sites. MINUSTAH advised, and OIOS confirmed, that disposal sites used by the contractor in the regions were approved by the town mayor but not by DINEPA and the Ministry of Environment. There was only one site in the capital, Port-au-Prince that had been approved by all three levels.

31. MINUSTAH had entered into a contract with a vendor for the disposal of solid waste for the period 1 June 2010 to 31 May 2013 and extended the contract until 31 July 2014. A review of the contractor's performance evaluation reports prepared by the Engineering Section from July 2012 to June 2014 indicated repeated instances of unsatisfactory performance regarding the transport and disposal of

³ "Black water" is water containing fecal matter and urine.

⁴ "Grey water" is waste water generated from domestic activities such as laundry, dish washing and bathing.

the Mission's solid waste. For example, MINUSTAH evaluation reports showed: (a) use of inappropriate garbage trucks resulting in spillage; (b) non-compliance with health and safety standards by the contractors' staff; (c) use of sub-contractors without approval; and (d) disposal of garbage in unauthorized dumping sites. MINUSTAH, on several occasions, had notified the contractor of its unsatisfactory performance; however, the contractor had not taken appropriate remedial action. Also, a visit to seven disposal sites used by the contractor in the regions indicated that all disposal sites were in an open area without protections from intrusion. Also, one of the disposal sites was very close to a water body used by the local population, increasing the risk of water contamination and environmental hazards. As a result of unsatisfactory performance, on 31 July 2014 the Vendor Review Committee of the Procurement Division suspended the contractor for a period of one year.

32. On 1 August 2014, MINUSTAH established a contract with a new vendor. A review of the new contract indicated that due to the lack of government-approved sites in the regions, the contractor was required to transport all solid waste collected from the regions to the only approved disposal site in Port-au-Prince.

33. Based on the action taken to replace the previous underperforming contractor and the clause in the new contract to address the issue of dumping waste in non-government approved sites, OIOS did not make a recommendation.

Disposal activities of wastewater contractors were not monitored

34. DINEPA required MINUSTAH and its contractors to dispose of untreated wastewater at two government-approved disposal sites in Titanyen and Morne Cabrit in Port-au-Prince. MINUSTAH had established contracts with two vendors, effective 1 July 2010, for septic tank cleaning and disposal services. Contractors were required to dispose of wastewater at government-approved sites.

35. DINEPA was required to issue receipts for wastewater disposal to both the drivers of United Nations-owned sewage trucks and those of the contractors engaged by MINUSTAH. A review of sewage disposal receipts issued by DINEPA to MINUSTAH drivers indicated that MINUSTAH disposed of wastewater at the approved sites. MINUSTAH was not obtaining copies of sewage disposal receipts issued by DINEPA to contractors. Instead, MINUSTAH relied on sewage collection coupons prepared by the contractor at the time of waste collection from the Mission's premises to confirm that the service had been provided. This; however, did not ensure that the contractor was disposing of collected waste only at the approved sites.

36. A DFS facsimile of 7 June 2011 instructed MINUSTAH to ensure that its contracts with wastewater disposal contractors included a provision for no-notice inspection of contractors' disposal practices. A review of contracts indicated that there was no provision for no-notice inspection of contractors' disposal practices and MINUSTAH did not conduct any inspections. MINUSTAH did include this provision in new contracts that were established in September 2014. The Engineering Section advised that inspections were not conducted due to inadequate staffing resources.

37. The failure to collect receipts to ensure that wastewater was disposed of at approved sites in conjunction with the absence of no-notice inspections indicated that MINUSTAH was not adequately monitoring the disposal activities of wastewater contractors. This created unmitigated health and environmental risks to the local population and exposed MINUSTAH to reputational risks in the event of inadequate disposal activities by its contractors.

(5) MINUSTAH should take appropriate measures to monitor the activities of wastewater contractors by: (a) prioritizing resources to conduct periodic inspections of contractors' disposal practices; (b) obtaining from its contractors receipts issued by the government authority evidencing that waste is being disposed of at approved sites; and (c) including a no-notice inspection clause in contracts.

MINUSTAH accepted recommendation 5 and stated that it had: taken measures to identify personnel to carry out periodic inspections of each contractor's disposal practices; and been collecting DINEPA receipts as evidence of disposal of waste at approved site. It had also conducted performance review meetings and completed performance appraisal reports of the contractors. MINUSTAH also provided a copy of a no-notice inspection reports dated 27 June 2015. Based on the action taken by MINUSTAH, recommendation 5 has been closed.

Sites vacated by the Mission due to troop relocations were not cleaned in a timely manner

39. The DPKO/DFS environmental guidelines required field missions to ensure that all vacated mission locations were restored as close to their original appearance as possible. All accumulated garbage and other materials were to be properly disposed of to prevent health hazards and minimize their impact on the environment.

40. A visit to 5 of the 15 MINUSTAH sites vacated due to troop/office relocations indicated that at one location, the holding tanks of a wastewater treatment plant were full of sewage although the contingents had already vacated the premises. At another location, grease from a grease trap and organic waste mixed with other garbage was stacked in an open area and at two other sites, the first chamber of a septic tank was full of black water. Toilets and ablutions were also left in unhygienic conditions.

41. The above conditions resulted as MINUSTAH did not have procedures in place to ensure that unoccupied sites were cleaned in a timely manner. MINUSTAH advised that it had retained the possession of vacated sites due to operational requirements and would fully clean the sites prior to them being handed over to the landlord. Delayed cleaning of vacated sites increased the risk of contamination of the surrounding environment. Also the non-removal of visible piles of garbage for a long period exposed the Mission to reputation risk.

(6) MINUSTAH should establish procedures to ensure that sites unoccupied due to troop relocations are adequately cleaned, and wastewater from all septic tanks/holding tanks and other garbage are disposed of at the time they are vacated.

MINUSTAH accepted recommendation 6 and stated that it had cleaned all five vacated sites and amended its standard operating procedures to ensure timely cleaning of other unoccupied sites and those that would be vacated. Based on the action taken by MINUSTAH, recommendation 6 has been closed.

MINUSTAH provided adequate training on the operation and maintenance of wastewater treatment plants

42. A DFS facsimile of 7 June 2011 instructed field missions to ensure wastewater treatment systems were operated and maintained by trained and qualified United Nations staff or by local providers with adequate United Nations oversight. A review of training plans and records indicated that: (a) 28 of 35 plant operators and technicians were trained on the operation and maintenance of wastewater treatment plants in September 2012; (b) a laboratory specialist attended specialized laboratory training; and (c) two technicians from the Water and Sanitation Unit were trained on the operation of water pumps in May 2014. OIOS did not note any instances where observations regarding the operation and maintenance were

due to lack of training and concluded that MINUSTAH provided adequate training on the operation and maintenance wastewater treatment plants to staff members.

MINUSTAH needed to update its environmental action plan

43. The DPKO/DFS environmental policy required the Environmental Officer to develop an action plan for environmental protection measures. MINUSTAH had developed an environmental action plan for 1 July 2011 to 30 June 2013 covering environmental and waste management issues, but did not have an action plan for fiscal year 2013/14. This was because MINUSTAH was exploring the possibility of incorporating some of the criteria and standards of the International Organization for Standardization on an environmental management system (ISO 14001) into its plan. The lack of an updated action plan reduced the effectiveness of the Mission's monitoring, assessment and reporting of its environmental and waste management activities.

(7) MINUSTAH should update its environmental action plan to enable effective monitoring and assessment of environmental and waste management activities.

MINUSTAH accepted recommendation 7 and stated that the environmental action plan had been updated and approved. Based on the action taken by MINUSTAH, recommendation 7 has been closed.

B. Coordinated management

MINUSTAH was adequately coordinating and supporting the implementation of the activities in the United Nations Support Plan for the elimination of cholera in Haiti

44. MINUSTAH together with other United Nations entities operating in Haiti launched in January 2014 a 2-year (2014-2015) Support Plan outlining key objectives, activities and targets in support of the Government of Haiti's 10-year National Plan, and 2-year Operational Plan for the elimination of cholera in Haiti. A review of the United Nations Support Plan indicated that it was adequately aligned with the priorities, objectives and key pillars of the Government's National Plan and included short and medium term activities allocated to various United Nations entities, and overall outcomes and indicators. The Deputy Special Representative of the Secretary-General and heads of United Nations agencies had established an informal technical committee which met biweekly to discuss priorities, and members of this committee actively followed up on proposed actions to ensure there was a coordinated effort to implement the Support Plan.

45. The Support Plan required MINUSTAH in collaboration with other United Nations agencies to implement various tasks including emergency rehabilitation of the water and sanitation infrastructures and cholera care centre; distribution of clean water; and rehabilitation and construction of canals. A review of the monthly reports from February to July 2014 submitted to the Office of the Deputy Special Representative of the Secretary-General by the Mission's Engineering, Civil Affairs and Community Violence Reduction Sections indicated that MINUSTAH contributed to the Support Plan by launching water supply projects; rehabilitating and constructing cholera treatment centres, hospitals and canals; and participating in monthly cholera meetings with concerned ministries and local authorities.

46. OIOS concluded that MINUSTAH implemented adequate controls to ensure it was supporting the implementation of the United Nations Support Plan.

The Mission participated in the High-level Committee for the Elimination of Cholera

47. On 11 April 2014, the Government of Haiti and the United Nations established a High-level Committee for the Elimination of Cholera to ensure coordinated efforts in the implementation of the government's National Plan. The Committee's terms of reference required meetings to be co-chaired by the Special Representative of the Secretary-General and attended by government and United Nations representatives.

48. Between April and September 2014, the Committee held two meetings to discuss emerging issues related to cholera and the implementation of the National Plan. A review of the minutes indicated that both meetings were co-chaired by the Special Representative of the Secretary-General and the Prime Minister of Haiti, and the Special Representative of the Secretary-General provided status updates on ongoing activities by MINUSTAH and other United Nations entities. The Secretariat of the Committee prepared action points and a matrix of priorities after each meeting and these were followed up on during subsequent meetings. OIOS concluded that MINUSTAH was adequately participating in the High-level Committee for the Elimination of Cholera.

IV. ACKNOWLEDGEMENT

49. OIOS wishes to express its appreciation to the Management and staff of MINUSTAH for the assistance and cooperation extended to the auditors during this assignment.

(Signed) David Kanja
Assistant Secretary-General for Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

Audit of waste management in the United Nations Stabilization Mission in Haiti

Recom. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
1	MINUSTAH should take steps to adequately monitor compliance with wastewater plant maintenance schedules to ensure critical parts are cleaned and/or replaced.	Critical	C	Action taken	Implemented
2	MINUSTAH should implement procedures for ensuring that recommendations for maintenance are acted on when laboratory tests show that established key quality parameters are not being met.	Critical	O	Receipt of satisfactory evidence that the standard operating procedures are being effectively implemented to ensure that laboratory recommendations relating to treated wastewater that did not meet established quality parameters are being adequately acted upon.	30 April 2015
3	MINUSTAH should discontinue discharging wastewater into public canals, or if there is no alternative, establish a procedure to regularly perform water quality tests.	Critical	C	Action taken	Implemented
4	MINUSTAH should take action to ensure that wastewater facilities are regularly inspected and the required cleaning, repairs and increased capacity enhancements are dealt with in a timely manner.	Critical	O	OIOS verification that the new guidance and procedures are being implemented to ensure wastewater facilities are adequately maintained.	13 April 2015
5	MINUSTAH should take appropriate measures to monitor the activities of wastewater contractors by: (a) prioritizing resources to conduct periodic inspections of contractors' disposal practices; (b) obtaining from its contractors receipts issued by the	Important	C	Action taken	Implemented

¹ Critical recommendations address significant and/or pervasive deficiencies or weaknesses in governance, risk management or internal control processes, such that reasonable assurance cannot be provided regarding the achievement of control and/or business objectives under review.

² Important recommendations address important deficiencies or weaknesses in governance, risk management or internal control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

³ C = closed, O = open

⁴ Date provided by MINUSTAH in response to recommendations

STATUS OF AUDIT RECOMMENDATIONS

Audit of waste management in the United Nations Stabilization Mission in Haiti

Recom. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
	government authority evidencing that waste is being disposed of at approved sites; and (c) including a no-notice inspection clause in contracts.				
6	MINUSTAH should establish procedures to ensure that sites unoccupied due to troop relocations are adequately cleaned, and wastewater from all septic tanks/holding tanks and other garbage are disposed of at the time they are vacated.	Important	C	Action taken	Implemented
7	MINUSTAH should update its environmental action plan to enable effective monitoring and assessment of environmental and waste management activities.	Important	C	Action taken	Implemented

APPENDIX I

Management Response

MANAGEMENT RESPONSE

Audit of Waste Management in United Nations Stabilization Mission in Haiti

Rec no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments ³
1	MINUSTAH should take steps to adequately monitor compliance with waste water plant maintenance schedules to ensure critical parts are cleaned and /or replaced.	Critical	Yes	Officer-in-Charge Engineering	30 April 2015	MINUSTAH confirms that the required maintenance work including chemical cleaning and replacement of critical parts as stipulated in the operations manual of the Waste Water Treatment Plants is, and has been, taking place on a regular basis throughout the audit period and to date. This is evidenced by the relevant records of the waste water treatment plant maintenance schedules which unfortunately were not available at the time of the audit. MINUSTAH has provided copies to the Resident Auditors along with the amended Standard Operating Procedures for review.
2	MINUSTAH should implement procedures for ensuring that recommendations for maintenance are acted on when laboratory tests show that established key quality parameters are not being met.	Critical	Yes	Chief Integrated Support Service	30 April 2015	MINUSTAH confirms that laboratory results and recommendations for maintenance are assessed and remedial action is being taken when necessary. Results, recommendations and action taken are now copied to MINUSTAH's Chief Integrated Support Services which ensures an additional layer of control. MINUSTAH's Water and Sanitation Standard Operating Procedures have been amended accordingly. Relevant supporting documentation has been provided to the

¹ Critical recommendations address significant and/or pervasive deficiencies or weaknesses in governance, risk management or internal control processes, such that reasonable assurance cannot be provided regarding the achievement of control and/or business objectives under review.

² Important recommendations address important deficiencies or weaknesses in governance, risk management or internal control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

³ Please indicate feasibility and realistic timelines for implementation of the recommendation.

MANAGEMENT RESPONSE

Audit of Waste Management in United Nations Stabilization Mission in Haiti

Rec no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments ³
						Resident Auditors.
3	MINUSTAH should discontinue discharging wastewater into public canals, or if there is no alternative, establish a procedure to regularly perform water quality tests.	Critical	Yes	Chief Integrated Support Service	24 April 2015	<p>MINUSTAH confirms that, as of the date of implementation, no water is being discharged from any of its camps. Instead, water is now contained within all of MINUSTAH's seven sites i.e. Philippines Company at Delta Camp, Port-au-Prince, Brazilian Battalion at Charlie Camp, Port-au-Prince, Bolivia Company at Charlie Camp, Port-au-Prince, Guatemala Company at Logbase in Port-au-Prince, Chilean Aviation at Logbase in Port-au Prince, Sri Lanka Battalion at Leogane and India Formed Police Unit2 at Charlie Camp in Port-au-Prince.</p> <p>After having been treated in the camp's waste water treatment plant, the water flows into water bladders which are connected to water pipes and is then reused within each camp in toilets, watering of compounds for dust control, irrigation and washing equipment such as generators, etc. Relevant supporting documentation has been provided to the Resident Auditors.</p>
4	MINUSTAH should take action to ensure that wastewater facilities are regularly inspected and the required cleaning, repairs and capacity enhancements are dealt with in a timely manner.	Critical	Yes	Force Commander, Police Commissioner, Officer-in-Charge Engineering	13 April 2015	MINUSTAH's Mission Support has provided specific guidance to each mission component i.e. Force Commander, Police Commissioner and Field Engineers along with a copy of the amended Standard operating procedures which clearly defines each component's roles and responsibilities and outlines what action

MANAGEMENT RESPONSE

Audit of Waste Management in United Nations Stabilization Mission in Haiti

Rec no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments ³
						should be taken to ensure that the required cleaning, repairs and capacity enhancements are dealt with in a timely manner. Relevant supporting documentation has been provided to the Resident Auditors.
5	MINUSTAH should take appropriate measures to monitor the activities of wastewater contractors by: (a) prioritizing resources to conduct periodic inspections of contractors' disposal practices: (b) obtaining from its contractors receipts issued by the government authority evidencing that waste is being disposed of at approved sites: and (c) including a no-notice inspection clause in contracts.	Important	Yes	Contracts Management Unit, Officer-in-Charge Engineering	30 September 2015	MINUSTAH has taken the appropriate measures to monitor the activities of wastewater contractors by (a) reviewing current resources to identify personnel to conduct periodic inspections of each contractor's disposal practices, the first of which is anticipated to take place in June 2015; (b) ensuring that copies of National Office for Drinking Water and Sanitation receipts to evidence disposal of waste at approved sites are provided to the Mission prior to payment to contractors, and (c) no-notice of periodical inspections clauses are being included in all new waste contracts. In addition, Performance Review Meetings have taken place and Contractor Performance Appraisal Reports have also been completed. Relevant supporting documentation has been provided to the Resident Auditors.
6	MINUSTAH should establish procedures to ensure that sites unoccupied due to troop relocations are adequately cleaned, and wastewater from all septic tanks/holding tanks and other garbage are disposed of at the time	Important	Yes	Officer-in-Charge Engineering, Joint Logistics Operations Centre, Environmental	30 April 2015	MINUSTAH confirms that all five sites have been cleaned, garbage/waste water residue removed and Standard operating procedures amended accordingly. All unoccupied sites are now being regularly inspected and benefit from the same services as occupied sites, as and when required. Relevant supporting

MANAGEMENT RESPONSE

Audit of Waste Management in United Nations Stabilization Mission in Haiti

Rec no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments ³
	they are vacated.			Compliance Unit		documents have been provided to the Resident Auditors.
7	MINUSTAH should update its environmental action plan to enable effective monitoring and assessment of environmental and waste management activities.	Important	Yes	Environmental Compliance Unit	28 April 2015	MINUSTAH's Environment action plan has been updated and signed. A copy has been provided to the Auditors.