

Hongkong International Theme Parks Ltd

Environmental Monitoring and
Audit for the Operation of The
Hong Kong Disneyland Resort:
*Monthly Environmental Monitoring
and Audit Report for 51st Operating
Month (12 November 2009 – 11 December
2009)*

December 2009

Environmental Resources Management



21/F Lincoln House
979 King's Road
Taikoo Place
Island East, Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
<http://www.erm.com>

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Reference 0055800

For and on behalf of ERM-Hong Kong, Limited
Approved by: _____ Dr. Robin Kennish
Signed: _____ 
Position: _____ Director
Certified by: _____  (Environmental Team Leader – Marcus Ip)
Date: _____ 24 December 2009

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EXECUTIVE SUMMARY

The construction works for Reprovisioning and Upgrading of Salt Water Service Reservoirs in Western District for Water Supplies Department commenced on 21 July 2007 and was completed on 29 October 2009. This is the Final Environmental Monitoring and Audit (EM&A) Report to present the EM&A work carried out and review the data collected over the entire construction phase of the Project.

Summary of construction works undertaken for the Project

The major construction works undertaken during the construction phase of the Project included:

- Slope work and portal / access tunnel construction;
- Tunnel excavation for Salt Water Services Reservoirs (SWSR) No. 1;
- SWSR No. 1 Construction;
- Tunnel excavation for SWSR No. 2; and
- SWSR No. 2 Construction

Environmental Monitoring and Audit Progress

A summary of the monitoring activities in the construction phase of the Project is listed below:

24-hour TSP monitoring	1 set per week
Construction noise monitoring	1 set per week
Joint environmental site auditing	once per week
Building settlement monitoring	every day except Sundays and general holidays
Building tilt monitoring	at least once every day

Air Quality

24-hour TSP measurements were carried out at the designated monitoring station AM1 during the construction phase of the Project. No exceedance was recorded over the construction phase of the Project. The review of air monitoring data indicates that the air quality has returned to the state before the commencement of the construction of the Project.

Noise

30-minute noise measurements were carried out at the designated monitoring stations NM1 & NM2 during the construction phase of the Project. Only one isolated exceedance was recorded on 30 July 2007 in the first reporting period (ie 21 July to 20 August 2007). In general, there was no significant difference

in the noise levels before the commencement of construction of the Project and those measured during the construction of the Project.

Cultural Heritage

Monitoring of potential building movements of the Elliot Treatment Works (ETW) during construction of the Designated Project was conducted over the entire construction phase of the Project. No exceedance in this respect was recorded for the entire construction phase of the Project.

Construction Waste Management

Inert C&D materials and non-inert C&D wastes were generated during the construction phase of the Project. The non-inert C&D wastes after segregation were disposed of at SENT Landfill. Recommended mitigation measures in the PP were implemented by the Contractor as far as practicable and were considered effective in minimizing the total quantity of wastes generated during the construction period.

Environmental Non-compliance

No non-compliance event was recorded during the construction of the Project. No environmental complaint and summons was received during the same period.

Future Key Issues

Construction of the Designated Project (DP) was completed on 29 October, 2009. As a result, there will be no further environmental issues related to the construction of the Project.

1 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This is the Fifty-first Environmental Monitoring and Audit (EM&A) report which summarizes the monitoring results and audit findings for the EM&A programme for the operation of the Hong Kong Disneyland Resort (the Resort) during the reporting period from **12 November 2009** to **11 December 2009**.

1.2 PROJECT INFORMATION

The project background, duration, site description and management structure are all detailed in Section 2 of the first Monthly EM&A Report, and the organization and lines of communication with respect to environmental matter are shown in Section 1 of the fourteenth Monthly EM&A Report.

1.3 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1 : **Introduction**

details the scope and structure of the report.

Section 2 : **Environmental Monitoring Requirement**

summarizes the monitoring parameters, locations, dates, times, frequencies and durations, monitoring methodology in accordance with the requirement stipulated in the EIA report and Operational EM&A Plan.

Section 3 : **Monitoring Results**

summarizes the monitoring results, weather conditions, QA/QC results and the data analysis for this reporting period.

Section 4 : **Environmental Site Inspection**

summarizes the audit findings of the monthly site inspection undertaken within this reporting period and future key issues.

Section 5 : **Environmental Non-conformance**

summarizes any monitoring exceedance, non-compliances, environmental complaints and environmental summons within this reporting period.

Section 6 : **Conclusions and Recommendations**

It was recommended in the Environmental Impact Assessment for *“Construction of an International Theme Park in Penny’s Bay of North Lantau and its Essential Associated Infrastructures”* (EIA Report) and stated in the Operational EM&A Plan (Revision F) that operation monitoring associated with Resort operation should be conducted for the following parameters:

- Fireworks Air Quality for the first year of the operation
- Fireworks Noise and Fixed Plant Noise from Resort
- Waste Management
- Terrestrial Ecology (White Bellied Sea Eagles) for a 2–year period when the Theme Part Phase II fireworks displays are launched

The EM&A requirements for these parameters are summarised in this section.

2.1

FIREWORKS AIR QUALITY

Air quality monitoring during the first operational year was conducted once every 2 weeks in the first 2 months of operation and once every three months thereafter. Samples for RSP, barium, copper, and dioxins were collected over a 24-hour period, the same as in the baseline sampling. A total of eight sets of air monitoring were conducted in the first year of operation and the monitoring results are available on the Operational EM&A web-site for the Resort (<http://www.themeparkatpennysbay-op.com.hk/>). As recommended in the EIA Report, future monitoring programme after the first operational year should be developed based on the monitoring results in the first year of operation.

The Annual Review Report for the first year of operation with respect to air quality and the proposal of the monitoring program for the second year of operation was submitted to the Environmental Protection Department (EPD) on 21 November 2006, and the revised Operational EM&A Plan (Revision B) was approved by the EPD on 26 January 2007. Air quality monitoring during the third year of operation has been reviewed and the revised Operational EM&A Plan (Revision C) was approved by the EPD on 19 December 2007.

The air quality monitoring on the rooftop of Peng Lai Court, Peng Chau previously conducted in accordance with the approved EM&A Plan (Revision C) could no longer be carried out as the Owner’s Corporation of Peng Lai Court refused the ET to conduct any air quality monitoring at the property. The rooftop of Peng Chau Fire Station was identified as the only suitable location for the air quality monitoring but the proposal was rejected by the Fire Services Department. With suitable monitoring locations in Peng Chau exhausted, only the air quality monitoring location at Discovery Bay would

remain. As a result of the above, the location for air quality monitoring in the EM&A programme was reviewed. EPD confirmed in its letter of 11 August 2008 that the department had no objection to the termination of air quality monitoring at Peng Lai Court as proposed in the revised Operational EM&A Plan (Revision D). Operational EM&A Plan (Revision E) was subsequently approved by the EPD on 21 November 2008. The latest Operational EM&A Plan (Revision F) was submitted on 27 October 2009 for EPD's approval, and was approved on 9 November 2009. The following sections describe the proposed monitoring programme for air quality during the fifth operational year of the Resort.

2.1.1 *Monitoring Locations*

The designated air quality monitoring locations are described in *Table 2.1*.

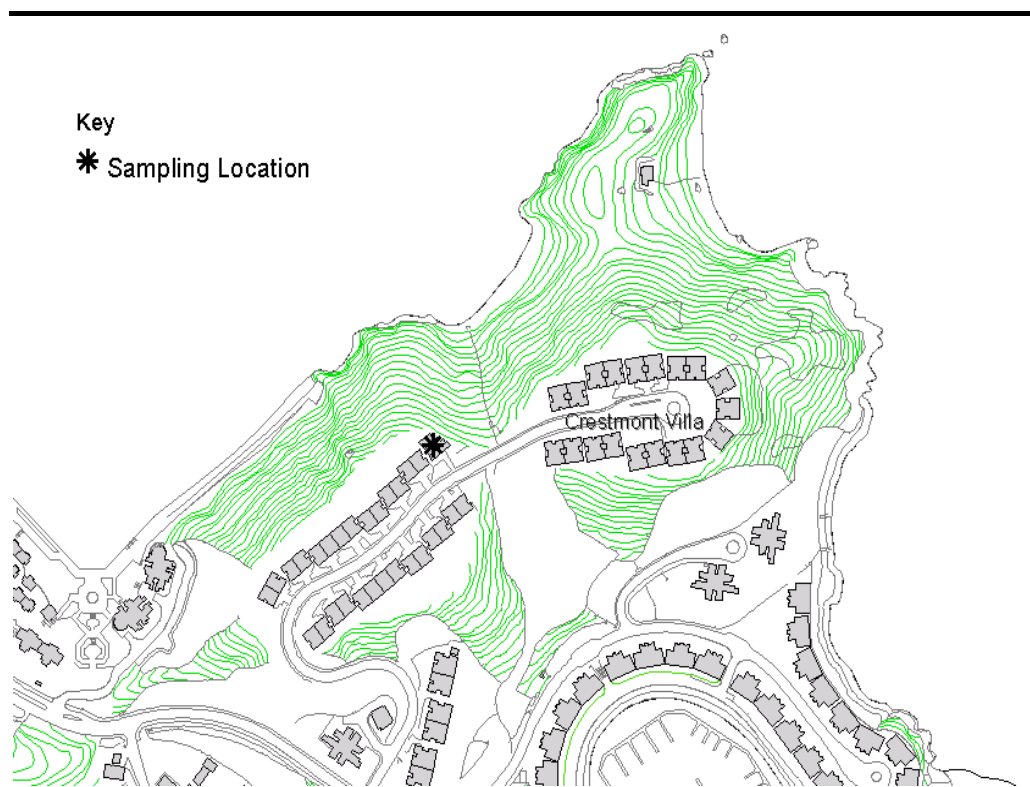
Table 2.1 Air Quality Monitoring Location

Station ID	Description
AM1	Rooftop of Crestmont Villa Management Office, Discovery Bay

AM1 - Crestmont Villa Management Office, Discovery Bay

Crestmont Villa Management Office (AM1) is a single storey high building, located approximately 2.7 km from the main launch area. The monitoring location was set at the rooftop approximately 5 m above the ground level, as shown in *Figure 2.1*.

Figure 2.1 AM1 - Air Quality Monitoring Location at Discovery Bay



2.1.2 *Monitoring Parameter and Equipment*

Respirable Suspended Particulates

24-hour Respirable Suspended Particulates (RSP) monitoring was performed using an Anderson High Volume Sampler (HVS) equipment with PM₁₀ inlet located at the designated monitoring location in Discovery Bay.

2.1.3 *Monitoring Frequency and Duration*

Sample for RSP was collected over a 24-hour period in accordance with the schedule as presented in *Table 2.2*.

Table 2.2 *Sampling Schedule for Air Quality Monitoring*

Parameters	Sampling Time (hours)	Methodology	Frequency	Locations
RSP	24	USEPA Method IO-2.1	Once every three months throughout the fifth year of operation	AM1

2.1.4 *RSP Sampling and Analytical Method*

The measurement of RSP was conducted in accordance with USEPA method IO-2.1 ⁽¹⁾. Air sample was drawn through an 8 x 10 inch glass fibre filter with measured flow rate over duration of 24 hours. The net weight of RSP collected by particulate filter was determined by gravimetric analysis. The level of RSP in μgm^{-3} was determined by dividing the total weight of particulate matters collected with the total standard volume of air sample.

A High Volume Sampler (HVS) was calibrated with a certified orifice type calibration kit. The filter was properly labeled and then sent to the laboratory of the Hong Kong Productivity Council (HKPC). The filter was equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than $\pm 3^\circ\text{C}$; the relative humidity (RH) was $< 50\%$ and not variable by more than $\pm 5\%$. A convenient working RH was 40%. Glass fibre filter was conditioned prior to the initial and final weighing.

2.2 *COMPLIANCE ASSESSMENT*

The Action and Limit levels for 24-hour RSP monitoring are presented in *Table 2.3*.

(1) Reference to <http://www.epa.gov/ttn/amtic/files/ambient/inorganic/mthd-2-1.pdf>

Table 2.3 *Action and Limit Levels for Air Quality Monitoring*

Monitoring Station	24-hour RSP ($\mu\text{g}/\text{m}^3$)	
	Action Level	Limit Level
AM1	106	180

2.3 *FIREWORKS NOISE AND FIXED PLANT NOISE*

During the operational phase, it is recommended that noise monitoring is undertaken at one on-site location and two off-site locations in order to assess fixed plant noise and noise from the fireworks displays respectively. The following sections describe the requirements for noise monitoring during the operational phase of the park.

2.3.1 *Monitoring Locations*

The noise monitoring locations are summarised in *Table 2.4*.

Table 2.4 *Noise Monitoring Station*

NSR No.	Identity/Description	Parameters
NM1	Rooftop of Cherish Court, Discovery Bay	Noise from Fireworks
NM2	Tai Lei, Peng Chau	Noise from Fireworks
NM4	Rooftop of the Central Maintenance Building	Fixed plant noise

NM1 - Rooftop of Cherish Court, Discovery Bay

Cherish Court is located approximately 2.4 km from the main launch area. The façade measurement location was set at rooftop of Cherish Court approximately 53 m above the ground level, with an unobstructed view over looking HKDL. The monitoring location of the equipment set up is presented in *Figure 2.2*.

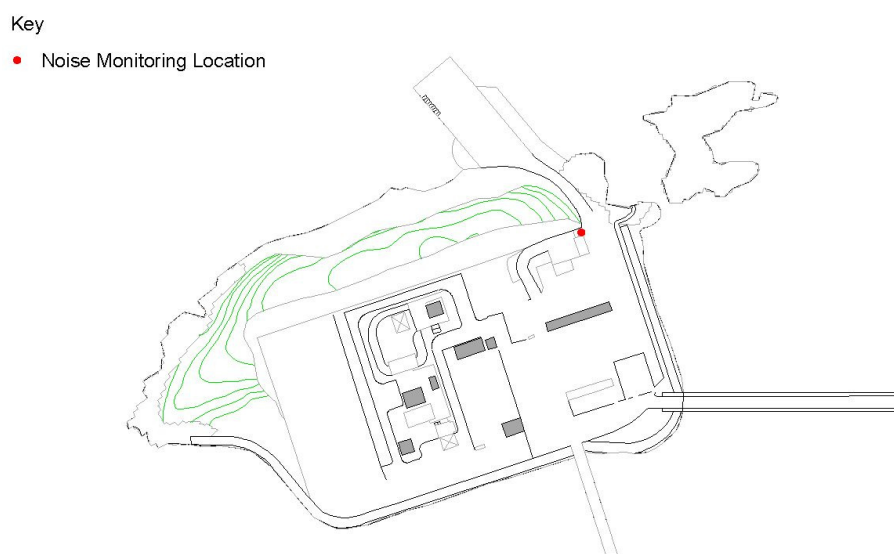
Figure 2.2 NM1 – Rooftop of Cherish Court, Discovery Bay



NM2 - Tai Lei, Peng Chau

The Tai Lei, Peng Chau is located approximately 2.7 km from the main launch area. The facade measurement location was set at 1.2 m above the ground level with a direct view over looking HKDL. The monitoring location of the equipment set up is presented in Figure 2.3.

Figure 2.3 NM2 – Tai Lei, Peng Chau



NM4 – Rooftop of the Central Maintenance Building

The rooftop of the Central Maintenance Building is about 9m above ground levels and will have an unshielded position overlooking the Resort. The monitoring location of the equipment set up is presented in *Figure 2.4*.

Figure 2.4 NM4 – Rooftop of Central Maintenance Building



2.3.2 Monitoring Parameters

Fixed Plant Noise

For fixed plant noise, six consecutive monitoring of $L_{Aeq, 5 \text{ min}}$ reading were carried out to calculate the $L_{Aeq, 30 \text{ min}}$ noise level.

Fireworks Noise

For fireworks noise, a $L_{Aeq, 15 \text{ min}}$ measurement was taken for the 15 minutes timeframe that included all fireworks noise levels. Any significant influences on the measured noise levels were taken into account in accordance with standard acoustical principles and practices. The Corrected Noise Level created by the fireworks was computed based on the Background Noise Level and Measured Noise Level.

2.3.3 *Monitoring Frequency and Duration*

Following any significant changes to the park's operations or fireworks displays (such as the introduction of a new ride or a change in the type or number of fireworks included within the display), fixed plant noise and fireworks noise monitoring will be undertaken once every six days for one month to ensure compliance with the noise criteria. At all other times, noise monitoring of fixed plant and fireworks noise will be undertaken once a month.

The monitoring programme is presented in *Table 2.5*.

Table 2.5 *Sampling Schedule for Noise Monitoring*

Parameters	Sampling Time	Methodology	Frequency	Locations
Firework Noise	$L_{Aeq, 15min}$ before, during and after the firework show within the period of 19:00 to 21:30	IEC 651:1979 and 804:1985 (Type 1)	<ul style="list-style-type: none"> once every 6 days for the first month of operation, thereafter once every month throughout the operation. monitoring will be undertaken once every six days for one month when there is a new ride or a change in the type or number of fireworks included within the display 	NM1 & NM2
Fixed Plant Noise	6 consecutive monitoring of $L_{Aeq, 5 min}$ before 19:00	IEC 651:1979 and 804:1985 (Type 1)	once every six days for one month when there is a new ride or a change in the type or number of fireworks included within the display	NM4

2.3.4 *Monitoring Methodology*

Facade noise measurements were carried out at NM1 and NM2. The sound level meters and calibrator used for the noise monitoring, as listed in *Table 2.6* below, complies with IEC 651: 1979 and 804:1985 (Type 1) specification. Both microphones were positioned at 1m from a facade, which have a direct line of sight to the Resort perimeter.

Fixed plant noise monitoring was conducted within non-fireworks hours in accordance with the methodology stated in the Operational EM&A Plan (Revision F).

Table 2.6 *Noise Measurement Equipments*

Monitoring Location	Monitoring Equipment
NM1 Cherish Court, Discovery Bay	Solo 01 Premium Sound Level Meter SVAN SV30A calibrator
NM2 Tai Lei, Peng Chau	SVAN 949 Sound Level Meter B&K 4231 calibrator
NM4 Central Maintenance Building	Solo 01 Premium Sound Level Meter B&K 4231 calibrator

Noise monitoring was conducted with reference to the calibration and measurement procedures as stated in the *Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM)*. Immediately prior to and following each noise measurement the accuracy of the monitoring equipments was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were accepted as the calibration level from before and after the noise measurement agree to within 1.0 dB.

The sound level meters and acoustic calibrator were calibrated by a HOKLAS accredited laboratory at the frequency of every two years. The relevant calibration certificates are presented in *Annex A*.

Noise measurements were made without the presence of fog and rain, and with steady wind speed and gusts not exceeding 5ms^{-1} and 10ms^{-1} , respectively in accordance with international standards and practices ⁽¹⁾. Broadband measurement of L_{Aeq} , L_{10} , L_{90} , L_{max} and L_{min} has been recorded at 100ms interval.

2.3.5 *Compliance Assessment*

Fireworks Displays

During monitoring, a detailed log of noise event was undertaken to record down any significant extraneous noise activities. The noise measurement was conducted in accordance with the agreed monitoring methodology which was adopted in the monitoring during trial fireworks displays. Any significant influences on the measured noise levels were taken into account in accordance with standard acoustical principles and practices. The corrected noise level, which will be the noise level generated by the Fireworks Show at HKDL, will then be compared against the maximum noise level of $L_{eq, 15\text{ min}}$ 55dB(A) at NM1 and NM2 as recommended in the EIA and stated in the Operational EM&A Plan (Revision F). HKITP will adopt $L_{eq, 15\text{ min}}$ 55dB(A) as the Limit Level.

Fixed Plant Noise

As recommended in the EIA and stated in the Operational EM&A Plan (Revision F), HKITP will adopt the maximum fixed plant site perimeter noise level (ie Limit Level) of $L_{eq(30\text{ minute})}$ 75 dB(A) at the perimeter of the Resort (NM4). HKITP will follow the Action and Limit (A/L) Levels as recommended in EIA which are summarised in *Table 2.7*.

⁽¹⁾ ISO 11819-1:1997 and ISO/FDIS 13472-1:2001

Table 2.7 Action and Limit Levels for Fixed Plant Noise Monitoring

Parameter	Action Level	Limit Level
Fixed Plant Noise	When one documented complaint is received from any one of the sensitive receivers	$L_{eq(30\text{ min})}$ 75 dB(A)

2.4 WASTE MANAGEMENT

The potential environmental impacts associated with the handling and disposal of waste arising from the resort operations have been assessed in the EIA. In accordance with the requirement stipulated in Condition 3.21 of the EP-01/059/2000/B, an Operation Waste Management Plan (OWMP) shall be submitted to EPD for approval at least one month before the Project commences operation. The OWMP was prepared by the HKITP and submitted to EPD and obtained approval on 12 August 2005. The OWMP included waste avoidance measures, material recovery and recycling programme and waste management audit framework. With the implementation of the OWMP, the EIA has concluded that minimal environmental impacts are anticipated for the handling, storage, treatment and disposal of waste arising from the Resort operations.

2.4.1 Monitoring and Audit on the Implementation of Mitigation Measures

It is recommended that auditing of each waste stream should be carried out periodically to determine if wastes are being managed in accordance with the approved OWMP. The objectives of the waste management monitoring and audit are:

- to ensure the wastes are handled, collected, stored and transferred and disposed of in compliance with the Waste Disposal Ordinance and the relevant regulations, and
- to ensure the waste management plan, in particular the environmental mitigation measures, is implemented properly and effectively.

The monitoring and audit covered the waste handling, recycling and disposal procedures within the Resort, as well as off-site sorting facility and the composting facility. Records identifying the waste arisings, the nature and composition of materials, the quantities of materials reduced, reused, recycled and otherwise recovered were kept for monitoring to check the effectiveness of waste reduction measures implemented. Summary of the waste monitoring and audit results for this reporting period is given in *Section 3.3*.

2.5 TERRESTRIAL ECOLOGY

The EIA summarised that during the operational phase there exists the potential for the White-bellied Sea Eagles to abandon their nesting site due to noise from the laser shows (which will not be undertaken on opening day program) and the fireworks shows. The EIA also stated that “human

interference impact identified may be mitigated by the further prohibition of human access during Project operation by secure fencing of the site". It was also recommended to extend the monitoring programme to monitor the reaction of these birds to the fireworks shows.

It was agreed between HKITP, CEDD and EPD that monitoring of White-bellied Sea Eagle would be conducted by CEDD and the monitoring results will be distributed to HKITP until completion of Government's works in the Penny's Bay Development Area. Construction works for Penny's Bay Reclamation Stage 2 were completed in February 2008. Monthly terrestrial ecological monitoring by CEDD was terminated after February 2008 with the approval from EPD. The need for the monitoring of White-bellied Sea Eagles by HKITP after completion of CEDD's works was agreed with EPD on 27 June 2008, and the monitoring of White-bellied Sea Eagles will be conducted for a 2-year period when the Theme Park Phase II fireworks displays are launched.

2.6

MARINE ECOLOGY

The EIA concluded that operational impacts to marine ecological resources may occur through disturbances to water quality due to changes in the hydrodynamic regime (note however that the water quality assessment in the EIA predicted "no adverse impacts"). It was also predicted in the EIA that there will be an increase in the number of vessels travelling between Victoria Harbour and Penny's Bay. The EIA concluded that these vessels will not be travelling at high speed and as the area is not identified as critical habitat to the Indo-Pacific Humpback Dolphin, unacceptable impacts are not predicted with the implementation of mitigation measures.

The EIA proposed a construction/operation dolphin/porpoise monitoring programme be established to evaluate whether the works had any effect on the mammals. It has been agreed between HKITP, CEDD and EPD that monitoring of dolphin/porpoise will be conducted by CEDD and the monitoring results will be distributed to HKITP until completion of Government's works in the Penny's Bay Development Area. Dredging activities for Penny's Bay Reclamation Stage 2 was completed in December 2005. Filling of sand and sorted public fill was also completed on 30 July 2007 and 13 June 2007 respectively. Monthly marine ecological monitoring by CEDD was terminated after December 2007 with the approval from EPD. The need for continued monitoring of marine mammals by HKITP after the completion of CEDD's works was agreed with EPD on 27 June 2008, and further monitoring of marine ecology (dolphin/porpoise) would be continued for one year starting from the 35th reporting period to the 46th reporting period (inclusive). HKITP has proposed, in consultation with AFCD, to terminate the monitoring of marine mammals after July 2009. The proposal was submitted on 6 August 2009 for EPD's approval. The Operational EM&A Plan (Revision F) was submitted on 27 October 2009 to EPD for approval, and was approved on 9 November.

3.1 AIR QUALITY

No air quality monitoring was scheduled during this reporting month. The trend of monitoring results since the operation of the Hong Kong Disneyland Resort is plotted in *Annex B*.

3.2 FIREWORKS NOISE AND FIXED PLANT NOISE

In accordance with the sampling schedule for noise monitoring as presented in *Table 2.5*, one round of fireworks noise monitoring and fixed plant noise monitoring was conducted during this reporting period. The fireworks and fixed plant noise levels at the monitoring locations are given in *Tables 3.1* and *3.2* and graphically presented in *Annexes C* and *D* respectively.

No exceedance of the Action and Limit Level of fireworks noise and fixed plant noise was recorded at the monitoring stations during this reporting period.

Table 3.1 *Fireworks Noise Monitoring Results*

Location	Date	Time Period, hrs	L _{eq} 15mins, dB(A) - ambient before	L _{eq} 15mins, dB(A) - ambient after	L _{eq} 15mins, dB(A) - average ambient	L _{eq} 15mins, dB(A) - Measured noise level	L _{eq} 15mins, Corrected noise levels
NM1 - Cherish Court, Discovery Bay	8 Dec 2009	19:37:20 – 20:22:20 (a)	53.7	53.4	53.6	57.1	54.6
NM2 - Tai Lei, Peng Chau	8 Dec 2009	19:37:15 – 20:22:15 (a)	50.8	50.0	50.4	52.7	48.9

Note:
(a) Ambient noise levels before fireworks were supplemented by measurement undertaken at the end of the monitoring program as access to the monitoring stations was not available before fireworks started.

Table 3.2 *Fixed Plant Noise Monitoring Results*

Location	Date	Time Period, hrs	Measured Noise Levels, dB(A)				
			L _{eq}	L _{min}	L _{max}	L ₉₀	L ₁₀
NM4 - Central Maintenance Building	1 Dec 2009	09:54:06 – 10:24:06	62.7	52.7	78.6	56.2	65.4

HKITP has followed the approved Operational Waste Management Plan (OWMP) on procedures for handling of municipal solid waste, chemical waste, grease trap waste, food waste, green waste and fireworks waste.

Reference has been made to the waste flow tables prepared by waste collectors and the quantities of different wastes collected, disposed of or recycled are summarized in *Table 3.3*.

Apart from the above quantities of waste recycled, HKITP has implemented various waste minimisation measures from the start of operation, which prevented waste generation at source. These contributed to the overall amount of waste “diverted” from landfill disposal. These measures include use of reusable utensils, tableware & trays instead of disposables in some of the fast-food outlets; use of fast-action hand dryers in lieu of paper towels in most public wash room facilities; use of reusable delivery cages, totes and wagons as opposed to wooden pallets and paper cardboard box for distribution of merchandise and food materials from the central distribution center to various outlets within the Theme Park; use of rechargeable batteries rather than disposable ones wherever possible; and recycle used rechargeable batteries; etc.

Table 3.3 Quantities of Different Waste

Month / Year	Quantity, tonnes / litres				
	Municipal Solid Waste (a)	Recyclable Materials (b)	Wastes collected for Composting (c)	Wastes Avoided (d)	Chemical Waste (e)
26 October 09 – 22 November 09	328.1 tons	48.4 tons	14.36 tons	7.1 tons	0 kg

Notes:

- Waste disposal reports dated between 26 October 09 – 22 November 09 was provided by HKITP’s waste management vendor on bi-weekly basis.
- Recyclable materials (paper, cardboard, plastics, metals, used kitchen oil, toner cartridges, electronic wastes and glass beverage bottles) were collected by third party recyclers.
- Food waste and green waste were collected for composting.
- The quantity of wastes avoided in this reporting period is estimated based on a few selected representative measures being implemented which include: the use of reusable containers instead of disposables in the fast food outlets; minimisation of packaging provided for the merchandise items; and the provision of electric hand dryers instead of paper towels in washrooms in the theme park.
- A registered chemical waste collector has been engaged for the collection of chemical wastes for disposal or recycling at licensed facilities.

The need for the monitoring of White-bellied Sea Eagles by HKITP after completion of CEDD’s works has been agreed with EPD on 27 June 2008, and the monitoring of White-bellied Sea Eagles will be conducted for a 2-year period when the Theme Park Phase II fireworks displays are launched.

No White-bellied Sea Eagle monitoring was conducted during the reporting month.

3.5

MARINE ECOLOGY

The need for continued monitoring of marine mammals by HKITP after the completion of CEDD's works was agreed with EPD on 27 June 2008, and the monitoring of dolphin/porpoise would be continued twice per month for one year starting from the 35th reporting period to the 46th reporting period (inclusive) following the monitoring methodology adopted by CEDD. HKITP has proposed, in consultation with AFCD, to terminate the monitoring of marine mammals after July 2009. The proposal was submitted on 6 August 2009 for EPD's approval. The Operational EM&A Plan (Revision F) was submitted on 27 October 2009 to EPD for approval, and was approved on 9 November 2009.

No marine mammal monitoring was conducted during the reporting month.

Based on the Operational EM&A Plan (Revision F), site inspection was carried out by the ET once per reporting period. A joint environmental site inspection was carried out by the representatives of the HKITP and ET on 1 December 2009.

The major activities undertaken in the Theme Park were the operation of theme park attractions, rides, fireworks displays, ancillary restaurants, retail shops and servicing facilities. Office works and regular maintenances of machinery within the Theme Park were also undertaken in the Back-of-House Area.

The environmental performance for the different environmental issues (including air, water, noise, ecology and waste/chemical waste management) complied with environmental requirements and all necessary mitigation measures are properly implemented. The HKITP has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and Operational EM&A Plan (Revision F). The implementation status of recommended mitigation measures under the EP during this reporting period is summarized in *Annex E*.

The major findings during the site inspection are summarized as follows:

- Separate containers were provided for collecting packaging/paper and plastic at Refuse Collection Points (RCPs) within the hotels. The RCPs were maintained in good conditions.
- Maintenance workshops of the hotels were also audited. Chemical Waste Stores were properly and temporarily stored on site. Chemical Wastes were handled, stored and disposed in accordance with the *Code of Practice on the Packaging, Labelling and Storage of Chemical Waste*.

No non-compliance in relation to the EIA recommendations was identified during the site inspection in this reporting period and therefore no further recommendation is required. The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

4.1

FUTURE KEY ISSUES

Entertainment facilities and associated services within the Hong Kong Disneyland Resort to be provided in the coming monitoring period will be the same as that provided in this reporting period. No potential environmental impacts are anticipated in the next monitoring period.

5 *ENVIRONMENTAL NON-CONFORMANCE*

5.1 *SUMMARY OF MONITORING EXCEEDANCE*

No monitoring exceedance was recorded in this reporting period.

5.2 *SUMMARY OF ENVIRONMENTAL COMPLAINT*

No environmental complaint was received in this reporting period.

5.3 *SUMMARY OF ENVIRONMENTAL SUMMONS AND SUCCESSFUL PROSECUTION*

No summons was received in this reporting period.

CONCLUSIONS

This Environmental Monitoring and Audit (EM&A) Report presents the EM&A work undertaken during the period from 12 November 2009 to 11 December 2009 in accordance with Operational EM&A Plan (Revision F) and the requirement under Environmental Permit EP-01/059/2000/B.

Firework noise and fixed plant noise monitoring were carried out at designated monitoring stations during this reporting period and there were no monitoring exceedances recorded in this reporting period.

Waste management procedures recommended in the approved Operational Waste Management Plan (OWMP) were implemented.

The environmental performance for the different environmental issues (including air, water, noise, ecology and waste/chemical waste management) complied with environmental requirements and all necessary mitigation measures are properly implemented. No non-compliance in relation to the EIA recommendations was identified during the site inspection in this reporting period. No complaint or summons was received during this reporting period.