

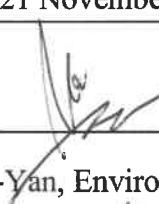
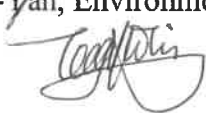
香港電燈有限公司
The Hongkong Electric Co., Ltd.



ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

ENVIRONMENTAL PERMIT NO. EP-071/2000/C

**LAMMA POWER STATION EXTENSION
ENVIRONMENTAL MONITORING & AUDIT PROGRAMME
AT CONSTRUCTION PHASE**

Report Title	Lamma Power Station Extension – Waste Management Plan for Unit 11 Complete Erection, Inspection, Testing & Commissioning of Power Block Facilities (Rev. 2)
Date	21 November 2019
Certified by	 (Mr. IP Tat-Yan, Environmental Team Leader)
Verified by	 Mr. Y T Tang (AECOM Asia Company Limited, Independent Environmental Checker)

名 称
TITLE

Waste Management Plan

A P P R O V E D

CUSTOMER

The Hongkong Electric Co., Ltd.

PROJECT NAME

Contract No. 17/2209

Lamma Power Station Extension - Unit 11 Complete Erection, Inspection, Testing & Commissioning of Power Block Facilities

太平電業株式会社
TAIHEI DENGYO KAISHA, LTD.
TOKYO JAPAN

香港ランマ11号建設所
Hong Kong Branch
(Lamma Unit11 Project)

本図書に含まれる情報の所有権は当社に帰属します。文書による当社の同意なく、複製、複写、第三者への開示、類似する行為、および、本提出目的以外の使用を禁止します。

This document/drawing is property of Taihei Dengyo Kaisha, Ltd. The information contained herein shall not be reproduced, copied, lent or otherwise disposed of without written consent of Taihei Dengyo Kaisha, Ltd, not used for any purpose other than for which is furnished.

承認 APPROVED	M.Fukura	Sep.26,2018
審査 REVIEWED	H.Yamamoto	Sep.26,2018
設計 DESIGNED	H.Oka	Sep.26,2018
作成 DRAWN	Sin Wai Lun	Sep.26,2018

DISTRIBUTION 配布先	CUSTOMER 客先		FIELD 現場		FACTORY 工場		COPY 控	TOTAL 合計
	1		1			1	3	

原価センター /P.J.NO.	B1038/P19-A3605	
DWG.NO.	C1901P2A9902	改 REV. 2

改訂来歴表
C A R E E R

DWG.
NO.

C1901P2A9902

改訂 REV	内 容 DESCRIPTION	日付 DATE	承認 APP'D	審 査 REVIEWED	設 計 DES'D	作 成 DWN.
0	First issue	Sep.19. 2019	M.Fukura	H.Yamamoto	H.Oka	Sin Wai Lun
1	First Revision as per client comments	Sep.26. 2019	M.Fukura	H.Yamamoto	H.Oka	Sin Wai Lun
2	Submission as approval	Nov.18. 2019	M.Fukura	H.Yamamoto	H.Oka	Sin Wai Lun

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	1 of 28
Waste Management Plan	Rev.	2

Content

1.0 Introduction

1.1 Purpose of The Plan

2.0 Environmental Legislation and Standards

2.1 Legislation Requirement & Code of Practice

2.2 Technical Circular and Guideline

3.0 Types and Sources of Waste Materials

3.1 Types of Waste Materials

3.2 Source of Waste Materials

4.0 Hierarchy of Waste Management Practices

5.0 Waste Management System and Control Measures

5.1 Management System

5.2 Implementation of Waste Management Plan

5.3 Prior-to-Work Preparedness

5.4 Environmental Meeting

5.5 Environmental Training

5.6 Practical Control Measures

5.7 Identification of Temporary Storage Areas

Appendix:

1. Environmental Management Policy Statement

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	2 of 28
Waste Management Plan	Rev.	2

1.0 Introduction

This Waste Management Plan is prepared as a practical guideline for our Group to comply with all environmental requirements concerning waste management in relation to construction industry.

The objectives of waste management are:

1. To reduce the generation of waste arisen from construction activities
2. To maximize reuse and recycle
3. To reduce the intake of mixed construction and demolition waste at landfills

1.1 Purpose of The Plan

The purpose of this Plan is to set up a waste management programme as to minimize the construction wastes arisen during the construction activities taken place. The programme aims at complying with the legislative requirements related to Environmental Protection and minimize waste impacts by implementing measures on reduction, recycling, re-use collection, separation and disposal of waste.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	3 of 28
Waste Management Plan	Rev.	2

2.0 Environmental Legislation and Standards

Various types of wastes will be generated during the construction activities undertaken and each type of wastes, requires different approach for management as stipulated in the legislations and Technical Circular issued by the government authorities and in other non-statutory standards, such as Code of Practice & Guideline related to waste management.

2.1 Legislation Requirement & Code of Practice

2.1.1 Legislation Requirement

The following legislations are in relation to the handling, treatment and disposal of waste arisen from construction activity:

- Waste Disposal Ordinance (Cap.354)
- Waste Disposal (Chemical waste) (General) Regulation (Cap.354C)
- Foreshores and Sea Bed (Reclamations) Ordinance (Cap. 127)
- Shipping and Port Control Ordinance (Cap.313)
- Public Health and Municipal Services Ordinance (Cap.132)
- Summary Offences Ordinance (Cap.228)
- Land (Miscellaneous Provisions) Ordinance (Cap.28)
- Dangerous Goods Ordinance (Cap.295)
- Waste Disposal (Amendment) Ordinance 1991
- Waste Disposal (Amendment) Ordinance 1997
- Waste Disposal (Amendment) Ordinance 2004
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation 2004
- Waste Disposal (Designated Waste Disposal Facility) (Amendment) Regulation 2004

Waste Disposal Ordinance (Cap.354)

Provides for the licensing of collection services and disposal facilities for all types of waste, the prohibition of livestock keeping in urban areas, the control on livestock keeping in restriction areas, the control on discharge or deposit of livestock waste in designated control areas, the control scheme on chemical waste, the control on illegal dumping of waste, the control on import and export of waste and for the establishment of a system whereby specified wastes must be notified to the relevant authority who may give directions as to the method of disposal. Requires also the production of a comprehensive plan for the collection and disposal of wastes.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	4 of 28
Waste Management Plan	Rev.	2

Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C)

Provides for control of all aspects of chemical waste disposal, including storage, collection, transport, treatment and final disposal.

Foreshores and Sea Bed (Reclamations) Ordinance (Cap.127)

Provides for the control of reclamation and use of the foreshore and seabed.

Shipping and Port Control Ordinance (Cap.313)

Prohibits pollution of the sea by oil from land-based as well as marine sources, and also the dumping of refuse and general littering from vessels or port-based operations.

Public Health and Municipal Services Ordinance (Cap.132)

Provides for the control of discharges of hazardous materials to sewers and littering, and places restrictions on the storage of wastes in buildings.

Summary Offences Ordinance (Cap.228)

Contains provisions relating to littering offences including marine littering.

Land (Miscellaneous Provisions) Ordinance (Cap.28)

Provides for control on dumping of public fill.

Dangerous Goods Ordinance (Cap.295)

Defines dangerous goods by category. Controls storage and transport of dangerous goods.

Waste Disposal (Amendment) Ordinance 1991

Provides for control of chemical waste with respect to packaging, labeling, storage, collection, disposal, import and export activities.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	5 of 28
Waste Management Plan	Rev.	2

Waste Disposal (Amendment) Ordinance 1997

Expands the regulation making powers for implementation of the various waste disposal charging schemes and repeals Section 28 which is inconsistent with the Hong Kong Bill of Rights Ordinance (Cap.383).

Waste Disposal (Amendment) Ordinance 2004

Provides for charging for disposal of construction waste at designated waste disposal facilities and for enhancing control on fly tipping of waste.

Waste Disposal (Charges for Disposal of Construction Waste) Regulation 2004

Substitutes the Waste Disposal (Charges for Disposal of Waste) Regulation 1995 to give effect to the revised charging scheme.

Waste Disposal (Designated Waste Disposal Facility) (Amendment) Regulation 2004

Adds provisions for operations at the Designated Waste Disposal Facilities for implementation of the revised charging scheme.

2.1.2 Code of Practice

- Code of Practice on the Handling, Transportation & Disposal of Asbestos Waste
- Code of Practice on the Handling, Transportation & Disposal of Polychlorinated Biphenyl (PCB) Waste
- Code of Practice on the Packaging, Labeling & Storage of Chemical Wastes
- Technical Memorandum on Environmental Impact Assessment Process

2.2 Technical Circular & Guidelines

2.2.1 Technical Circular

- WBTC Nos. 02/1993
Public Dumps

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	6 of 28
Waste Management Plan	Rev.	2

- WBTC No. 02/1993B
Public Filling Facilities
- WBTC Nos. 4/98
Use of Public Fill in Reclamation & Earth Filling Projects
- WBTC Nos. 25/99, 25/99A & 25/99C
Incorporation of Information on Construction and Demolition Material Management in Public Works Subcommittee Papers
- WBTC No. 12/2000
Fill Management
- WBTC No. 30/2000
Construction Site Safety Manual Second Updating of Chapters 3 and 12
- WBTC No. 6/2002 and 6/2002A
Enhanced Specification for Site Cleanliness and Tidiness
- WBTC No. 12/2002
Specifications Facilitating the Use of Recycled Aggregates
- ETWB TCW No. 30/2002
Implementation of Site Safety Cycle and Provision of Welfare Facilities for Workers at Construction Sites
- ETWB TCW No. 33/2002
Management of Construction & Demolition Material Including Rock
- ETWB TCW No. 14/2003
Role of Departmental Safety and Environmental Advisor on Health, Safety and Environmental Protection on Construction Sites
- ETWB TCW No. 19/2005
Environmental Management on Construction Sites

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	7 of 28
Waste Management Plan	Rev.	2

- TCW No. 6/2010

Trip ticket system for disposal of Construction & Demolition Materials

2.2.2 Guidelines

- Guidance Note for Contaminated Land Assessment and Remediation (August 2007), Environmental Protection Department
- Waste Disposal Plan for Hong Kong (December 1989), Planning, Environmental and Land Branch Government Secretariat
- Site Practice for Waste Reduction in Construction Industry, Environmental Protection Department

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	8 of 28
Waste Management Plan	Rev.	2

3.0 Types and Sources of Waste Materials

3.1 Types of Waste Material

- General Refuse
- Construction & Demolition (C&D) Material
- Chemical Waste
- Municipal Waste

3.2 Source of Waste Material

➤ General Refuse

General refuse will be produced from the labor force on site and is mainly consist of office waste, food and packaging waste.

➤ Construction & Demolition (C&D) Material

The C&D Material can be divided as Non-Inert (C&D Waste) & Inert (Public Fill).

Non-inert C&D material will be arisen from the steel and wood from hoarding; steel bars from concrete reinforcement activities; tress and plants from site clearance; timber from temporary work (formwork & false work) and material and equipment wrappings.

Inert C&D material will be generated from general earthwork; concrete from construction and demolition work; rock from site clearance and formation; unusable surplus concrete/grouting mixes and damaged / surplus construction materials.

➤ Chemical Waste

Chemical wastes are commonly generated from plant / machines and vehicle maintenance and servicing activities. Chemical waste can be classified into 2 statuses: Solid & Liquid.

Solid waste includes empty fuel / lubricant drums; used oil / air filter; Liquid waste includes spent mineral oils, cleaning fluids waste oil, grease, spent solvent, detergent produced from

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	9 of 28
Waste Management Plan	Rev.	2

cleaning activities, paint application, surplus paint, used engine oil, hydraulic fluid and waste fuel and shutter release agents.

➤ **Municipal Waste**

Municipal waste (including sewage waste) is produced from the composition of food waste, packaging and waste paper that has potential to cause odor that negatively affects air and water quality as well as health.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	10 of 28
Waste Management Plan	Rev.	2

4.0 Hierarchy of Waste Management Practices

The various waste management options can be categorized in terms of preference from an environmental point of view. The options considered to be more preferable are to make the least impacts on environment and are more suitable in a long-term context. Hence, the hierarchy of waste management practices is developed as follows:

1. Prevention and reduction, change or improve the practices and designs for avoiding and minimizing generation of waste

➤ ***Prevention and Reduction***

The highest rank of the hierarchy in waste management is source prevention, waste should not be produced in the first place, if waste production is unavoidable, the quantities should be minimized.

Instruction should be given to Purchase Department and sub-contractor that prior to purchase the products with essential package and longer useful life to achieve waste reduction.

Prior the commencement of work, works procedure should be well organized by project team to achieve the goal of no amendment in the project. This can minimize the generation of extra C&D debris.

Front-line supervisor should provide supervision and training for unskilled workers. They may be still not competent in their skills. Waste is arisen as the unskilled workers making a test sample on site.

2. Reuse, recover and recycle the material so as to avoid waste disposal

➤ ***Reuse and Recycling***

Waste materials should be collected and separated at source daily before completion of work. On-site Sorting System for C&D material should be developed for separating inert and non-inert portion at source as it is a lower and most appropriate technological level and avoid the need for subsequent sorting.

Obviously, inert material should be reused on-site where possible. Prior to disposal of C&D waste, it is recommended that wood, steel and other metals should be separated for re-use and / or recycling to minimize the quantity of waste to be disposed of to landfill.

Temporary storage area has been designated at the material depot; partition has been set-up for the storage of inert and non-inert materials separately. Reusable materials

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	11 of 28
Waste Management Plan	Rev.	2

such as steel bar, bamboo members and surplus concrete should be sorted and stored properly.

In the last decade, concept of reuse and recycling conveyed to workers is not enough. In this project, front-line supervisor should provide relative training for worker to strengthen their knowledge of waste reduction, reuse and recycling.

General refuse and municipal waste will be sorted into 3 categories: Plastic Bottles, Aluminum Cans, paper & Waste (Non-reuse / recycled). Different types of waste will be segregated and stored in different containers.

3. Treat and disposal of waste in accordance with the relevant legislative requirements, guidelines and good practices

➤ **Disposal**

If it is not possible to recover, recycle or re-use the waste materials. In the waste management hierarchy, landfill is the final disposal option in all treatment methods and this is unavoidable.

Trip-ticket system for the transportation & disposal of C&D waste should be strictly implemented. It is used for transporting inert waste to designated public fill facilities and non-inert waste to landfill site.

The hierarchy should be used to evaluate waste management options, thus allowing maximum waste reduction as well as the cost reduction.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	12 of 28
Waste Management Plan	Rev.	2

5.0 Waste Management System and Control Measures

5.1 Management System

5.1.1 Environmental Management Policy and Waste Management Plan

5.1.1.1 Establishment Environmental Management Policy:

Taihei Dengyo Kaisha, Ltd. (TDK) has established clear policy objectives and standards which give directions and demonstrate the commitment to senior management and staff in all tiers of the organization to establish environmental management on site.

5.1.1.2 Review and Revise Environmental Management Policy:

Environmental Management Policy will be reviewed at least annually by Site Manager or when necessary so as to keep up with the change or the need or make continuous improvement on environmental management, i.e. change of legislation, change of standard or upgrading Company's environmental standard. If reviewing that there is a need to revise the Policy, our Group Senior Management will discuss and work out the revision.

Prior the discussion, feedback or suggestion from staff of all levels will be collected during meeting or through questionnaire. Such feedback / suggestions will be taken as a reference for reviewing and revising.

The revision will be informed all staff, workers, subcontractors and suppliers through official writing, training, meeting and displaying.

The factors, which affect our approach to standards that have been adopted, are:

- ◆ International best practices identified.
- ◆ The outstanding environmental management performance that had been achieved recently by other major construction projects in Hong Kong.
- ◆ The development of new legislation in Hong Kong, which now addresses safety issues from an environmental management rather than a prescriptive approach.
- ◆ The standard will be written with a view to improve the standard that has been already established on previous projects, but ensuring that they are realistic, cost effective and achievable by the project management, subcontractors and sub-subcontractors.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	13 of 28
Waste Management Plan	Rev.	2

- ◆ These standards will be based on the legislation, code of practices, environmental guides, lessons learnt and good practices adopted from other projects and also lessons learnt from previous projects where “Grey Area” exists in existing safety legislation.

5.1.1.3 Implementation & Achievement

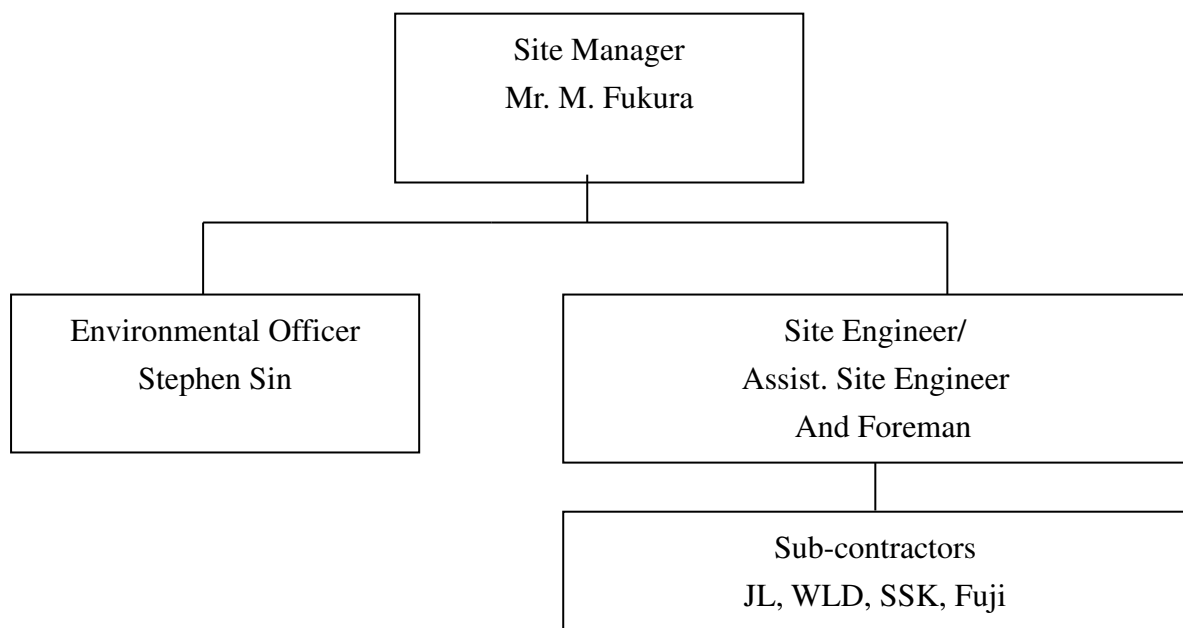
A Waste Management Plan as per the objectives, standards and targets stipulated in the Policy will be established as guideline for implementing the Policy and hence achieve the objectives, standards and target as addressed.

5.2 Implementation of Waste Management Plan

5.2.1 Duties and Responsibilities

The duties and responsibilities of Site Organization are managed and control waste generated from the contract, the lines of communication with respect to the disposal of waste matters are shown in Site Organization chart and outline the primary responsibility and duty of each participant with respect to Waste Management Measurement.

SITE ORGANIZATION CHART FOR WASTE MANAGEMENT PLAN



TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	14 of 28
Waste Management Plan	Rev.	2

5.2.2 SITE MANAGER

- a) Responsible for the provision of sufficient resources and facilities for the implementation of the Waste Management Plan;
- b) Active support the waste-management policy;
- c) Approved environmental reports for issue;
- d) Approved the Waste Management Plan and associated documents for issue, and approved the waste-management objectives and targets.
- e) also responsible for taking follow-up action on any defect and non-compliance work,

5.2.3 ENVIRONMENTAL OFFICER

The Environmental Officer or Environmental Supervisor were appointed to assist the Site Manager for the implementation and monitoring the operation of the Waste Management Plan, including completing the Daily Record Summary (DRS) and checking all the returned receipts to ensure the material disposed to designated area. Also responsible for preparing the Yearly and Monthly Waste Flow Table. In case of the absence of Environmental Officer in the project, his duty should be responsible by the Engineer.

5.2.4 SITE ENGINEER / ASSISTANCE SITE ENGINEER

Site Engineer and Assistance Site Engineer should monitor the site activities and coordinate with the Engineer to issue the Waste Trip Ticket for any disposal trips. They are also responsible to arrange the checking of the disposal material with the HEC's staff prior to the dump trucks leaving off site, if necessary.

5.2.5 FOREMAN

The Foreman is appointed to check every truck carrying C&D material leaving on site to ensure the truck driver bears a duly completed, signed and stamped trip ticket. Also, Foreman should check the loading condition of the dump trucks to ensure no overloading.

5.2.6 SUBCONTRACTORS

Each subcontractor's management shall be responsible for making sure that their site personnel are made aware of the environmental mitigation measures required by the Waste Management Plan. Also, TDK will establish a system for proper handling and storage of chemical waste generated from the site, and shall arrange collection and disposal of such chemical waste by specialist contractor.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	15 of 28
Waste Management Plan	Rev.	2

5.3 Prior-to-Work Preparedness

5.3.1 Method Statement

Method Statement should be prepared to the construction activities that generate chemical waste, involving demolition work or use of timber in temporary works construction.

The method statement should be included the following information:

For Construction Activity Generating Chemical Waste:

1. Details concerning the nature of the chemical waste generated
2. The method of storage
3. The arrangement for collection and disposal

For Construction Activity Involving Demolition:

1. The sequence of demolition
2. The work programed to facilitate effective recovery of reusable and / or recyclable portions of the C&D Materials at the earliest stage

For the use of timber in temporary works constructions:

1. The justification for and the measures taken to minimize the use of timber in the temporary works.
2. Provide a summary table containing the description, justification and the estimated quantity for every work process/activity requiring the use of timbers for temporary works construction irrespective of the quantity of timber used.

5.3.2 System for Sorting of C&D Material

On-site Sorting System for C&D material should be developed and documented prior to work commencement for separating inert and non-inert portion at source as to avoid the need for subsequent sorting.

The On-site Sorting System for C&D material should include the following information:

1. Identification of the source of generation
2. Information regarding the estimated quantity

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	16 of 28
Waste Management Plan	Rev.	2

3. Arrangement for on-site sorting and /or collection, temporary storage area, frequency of collection by recycling contractor or frequency of removal of-site
4. Resources and facilities to be used for carrying out on-site sorting for each type of C&D materials

5.4 Environmental Meeting

A regular meeting for discussion and communication of environmental issues should be held, under the instructions issued by Environmental, Transport and Works Bureau, regular environmental meeting should be integrated into Site Safety Committee and Site Safety Management Committee Meeting.

These 2 meetings are re-titled as “Site Safety and Environmental Committee Meeting” & “Site Safety and Environmental Management Committee Meeting”

The following items should be stated in the Agenda and discussed during the meeting:

1. Review the Waste Management Plan, including the quantities and types of C&D materials generated, reused and disposed of off-site; the amount of fill materials imported to the Site and quantity of timber used in temporary works for each construction process/activity
2. Monitor the achievement of the Waste Management Plan to assess its effectiveness and efficiency
3. Monitor the follow-up action on defects and deficiencies identified during the inspection

5.5 Environmental Training

Site Safety and Environmental Specific Induction and Site Safety and Environmental Specific Induction Refresher Training

Training on waste management, including the policy, targets, control measure for on-site sorting C&D materials and measurement on waste management on site should be provided to site staff and worker new to site within 2 days of their commencement of their work in a form as part of Site Safety Induction Training.

Site Safety Specific Induction Training will be titled as “Site Safety and Environmental Specific Training”

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	17 of 28
Waste Management Plan	Rev.	2

Site staff and workers should attend the Site Safety and Environmental Specific Induction Refresher Training at an interval of every 12 months.

The trainer for these trainings should be competent person having attended the training on waste management organized by approved training institutes or organizations.

5.5.1 Tool Box Talk Training

Tool Box Talk concerning the topic on on-site sorting of C&D materials, the aim is to enhance the awareness of workers in handling, sorting, reuse and recycling of C&D materials should be provided to site workers at a regular basic (Same as Safety Tool Box Talk).

5.6 Practical Control Measures

The generation of waste from the construction activities should be minimized through changing or improving design and practices, careful planning and good site management. Where possible, construction waste materials, such as wood and metal should be separated from other wastes for reuse and recycling as much as possible. Not only the waste production can minimize, the site tidiness and control of mosquito breeding can also be benefited whilst implement such measures. All relevant legislation requirements and standards should be observed and complied with during the operation.

5.6.1 General Refuse

General refuse will be collected on site and disposed of at landfills operated by Environmental Protection Department or at refuse transfer stations.

General refuse will be sorted into 4 categories: Metal, Plastic, Paper & Waste (Non-reuse / recycled). The first 3 types of refuse will be collected in 3 different bins with different colors: Brown, Yellow & Blue for collection to reuse / recycle.

The waste will be collected and stored in the general refuse bin.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	18 of 28
Waste Management Plan	Rev.	2

5.6.2 Construction & Demolition Material

5.6.2.1 Waste Reduction

- Avoid, where possible, purchase of products with unnecessary or non-recyclable packaging
- Practice of recovery, recycling and reuse of suitable waste materials should be maximized
- Avoid clearing site areas where the proposed construction works are not be affected, thus, reducing the waste vegetation and soil

5.6.2.2 Recovery, Recycling and Reuse of C&D Materials

With respect to construction activities, the following reuse / recycling materials are commonly generated:

- Spoil generated during excavation, formation and other structuring can be reused on site and for filling
- Steel used for the hoardings and formwork can be reused for other construction activities
- Unusable / surplus concrete / grouting mixes can be used as fill
- Damaged / spent construction materials can be graded and as fill
- Whenever feasible, area should be designed for storing reuse and recycling materials
- All recyclable materials should be segregated and stored in appropriate containers for reuse and recycling
- Where feasible, waste material should be segregated into 3 categories:
 1. Public Fill (e.g. concrete and rubble) for reuse on-site or disposal at a public filling area
 2. Reuse and / or recycling waste
 3. Waste (other than Public Fill) that cannot be reused and / or recycled (e.g. wood, glass and plastic) for landfill disposal

5.6.2.3 Collection and Storage of C&D Material

- Excavated inert and demolition waste including trees and shrubs should be temporarily segregated along the site hauling area to facilitate the collection
- Spoil and earthworks material should be inspected and graded as necessary adjacent to the site hauling area to facilitate the collection by dump trucks and to be used as fill material
- Different types of construction wastes should be separately stockpiled and stored at appropriate and easily accessible areas to facilitate the proper disposal.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	19 of 28
Waste Management Plan	Rev.	2

5.6.2.4 Transportation & Disposal of C&D Material

A. Transportation

1. Trip-ticket System are used for:

- Transporting inert waste to designated public fill facilities
- Non-inert waste to landfill site

2. Implementation of Trip-ticket System

- Produce and keep the Trip-ticket Form for each and every vehicular trip transporting C&D material off site including Public Fill or C&D Waste. The Form should be completed in duplicate except for the Time of Departure.
- Prior to the vehicle leaving the site, should present the completed Trip Ticket Form to HEC's Representative. The completed form should be inserted the Time of Departure and stamped.
- The original of the Form should be returned and a copy should be kept by the TDK. The Form should be carried out on board the vehicle at times throughout the vehicular trip
- For each vehicular trip, should obtain a receipt from the operator of the public filling facility or the landfill and submit the original receipt within 2 working days of the trip

B. Disposal

- Only licensed dumping truck is employed for waste disposal
- All public fill should be disposed of at the designated public fill areas
- All C&D waste should be disposed of at designated landfills

Note: For transporting and disposing of contaminated materials, admission ticket should be applied from EPD for the consent. No contaminated materials should be stockpiled on site. The dump truck for transporting the contaminated material to landfill should be wetted and sealed with a cover to avoid spillage during the course of transporting.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	20 of 28
Waste Management Plan	Rev.	2

5.6.2.5 System of Generation & Disposal Recording of C&D Waste

Amount of waste recycled and disposed of should be clearly recorded and the record should be available for inspection upon request

1. Trip Ticket Form for each and every vehicular trip transporting C&D material off site including Public Fill or C&D Waste (The original receipt to be submitted to TDK within 2 working days of the trip)
2. Monthly Summary Waste Flow Table (To be submitted to the TDK not later than 15th of each month following the reporting month, or it is a General Holiday, the day following the General Holiday)
3. Yearly Summary Waste Flow Table (To be submitted to the HEC not later than 1st June & 1st December of each year)

5.6.2.6 Training

Prior to commencement of the work, training and instruction should be provided to the site staff and workers on the concept of waste management procedures including waste reduction, on-site sorting arrangement, re-use and recycling of waste materials and site cleanliness.

On-going training in form of Tool Box Talk training should be provided to site staff and workers to refresh and promote the awareness on the concept of waste management procedures including waste reduction, on-site sorting arrangement, re-use and recycling of waste materials and site cleanliness.

5.6.3 Chemical Waste

5.6.3.1 Waste Reduction

Chemical waste production, where possible, should be reduced by the use of well-maintained vehicles and plant, as the principal chemical waste is expected to be arisen from changing oil, maintenance or cleaning service.

Handling of chemical waste should be carried out in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	21 of 28
Waste Management Plan	Rev.	2

When chemical waste is generated, registration as chemical waste producer under the Waste Disposal (Chemical Waste) (General) Regulation should be applied. All the chemical waste should be properly stored, labeled, packaged and collected before transporting to disposal facilities.

5.6.3.2 Reuse & Recycling of Chemical Waste

Whenever possible, to identify the recycling or reprocessing opportunities for certain chemical wastes, such as oils, lubricants and detergent so as to reduce the volumes of chemical waste.

However, the opportunities for reuse or recycling of chemical wastes are extremely few.

5.6.3.3 Collection of Chemical Waste

- Chemical waste container should be used for collection of chemical waste
- The container should be resistant to corrosion, maintained in a good condition and securely closed
- Any stacked-up container should be securely fixed to prevent falling down
- Have a capacity of less than 450L unless the specifications have been approved by EPD
- Different types of chemical waste should not be stored in the same chemical waste container
- Display a proper label in English & Chinese according to the instruction prescribed in Schedule 2 of Waste Disposal (Chemical Waste) (General) Regulation

5.6.3.4 Storage Area for Chemical Waste

- Appropriate area should be designated for storing chemical waste only*. The location of the storage area should not obstruct any means of escape or exit
- 3 sides of the designated storage area should be enclosed by wall or partition with a height of 2m or with a height not less than the height of the containers stacked up.
- Adequate ventilation should be provided for vaporizing the hazardous concentration in case of spillage or leakage
- Not to connect to any surface water drains or foul sewers
- There should be adequate space for handling the container
- A roof or similar covering should be provided for the storage area unless the storage area is located with the building
- For storage of liquid chemical waste, the floor or surface of the storage area should be impermeable and the space should be with the capacity to accommodate the contents of the

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	22 of 28
Waste Management Plan	Rev.	2

largest container or 20% of the volume of the chemical waste and enclosed by wall or partition of impermeable material

- Warning panel, notice or marking in English (“**CHEMICAL WASTE**”) and Chinese (“化學物品”) should be displayed at or near the entrance or the opening. The size of the characters should not less than 6m in height and in bold legible red words with white background.

* Once the quantity of the chemical waste stored not more than 50L, the chemical waste is allowed to be stored in the working area. The following requirements have to be followed:

- The chemical waste should be packed or stored in container and labeled as per the requirement of Waste Disposal (Chemical Waste) (General) Regulation
- The container for storage of chemical waste should be kept in a cupboard, cabinet or receptacle which is suitable and safe
- Avoid the contact of different types of chemical waste or use impermeable partition to isolate each type of chemical waste

5.6.3.5 Transportation, Disposal of Chemical Waste

A. Transportation

- Licensed chemical waste collector should be engaged for the collection and removal of chemical waste
- The duty to arrange for the proper disposal of the construction waste should be discharged to the waste collector by consigning the waste to such a waste collector
- A triplicate form (known as “Trip Ticket”) should be completed to record the chemical waste collected from site
- The waste collector employed should deliver collected wastes to a reception point within 48 hours of collection and maintain and return the record

B. Disposal

- Via a licensed waste collector
- All chemical wastes should be disposed of to the Chemical Waste treatment Centre (CWTC). If the chemical waste is not acceptable to the CWTC, such as spent barriers, it should be sent to a co-disposal landfill. A permit / license should be applied prior to any chemical waste disposal when necessary

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	23 of 28
Waste Management Plan	Rev.	2

5.6.3.6 System of Generation & Disposal Recording of Chemical Waste

Amount of waste recycled and disposed of should be clearly recorded and the record should be available for inspection upon request.

1. Monthly Summary Waste Flow Table (To be submitted to the HEC not later than 15th of each month following the reporting month, or it is a General Holiday, the day following the General Holiday)
2. Yearly Summary Waste Flow Table (To be submitted to HEC not later than 1st June & 1st December of each year)

5.6.3.7 Training

Prior to commencement of the work, training and instruction should be provided to the site staff and workers on the concept of waste management procedures including the risk of chemical waste and the proper procedure for handling, waste reduction, on-site sorting arrangement, re-use and recycling of waste materials and site cleanliness.

On-going training in form of Tool Box Talk training should be provided to site staff and workers to refresh and promote the awareness on the concept of waste management procedures including the risk of chemical waste and the proper procedure for handling, waste reduction, on-site sorting arrangement, re-use and recycling of waste materials and site cleanliness.

In order to ensure an adequate response on accidental chemical spillage, the emergency team will receive suitable training for handling this emergency situation. The emergency team will participate in regular simulated emergency drills on accidental chemical spillage situations. The drill will be carried out regularly (At least once per year).

Environmental Officer will assist the emergency coordinator to conduct the accidental chemical spillage drill and an evaluation report will be made within 7 days and will submit to HEC.

5.6.4 Municipal Waste

5.6.4.1 Waste Reduction

The municipal waste should be minimized by adopting good site management and controlling the ordering of the materials.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	24 of 28
Waste Management Plan	Rev.	2

5.6.4.2 Collection and Storage of Municipal Waste

- Temporary storage chute / bins for municipal waste, such as food wastes, aluminum cans and waste paper etc., should be available on site and collected regularly
- Chemical toilets or sewage holding tanks should be provided on site to control the sewage generated by site construction labour force.
- A sewage treatment plant is currently erected at site area that enables the treatment of domestic sewage water to the standard that can be discharged to storm water storm. The sludge generated will be collected by waste collectors at adequate intervals
- Paper, cans & rubber bottles will be separately stored and collected by the specific collectors for recycle purpose

5.6.4.3 Transportation, Disposal and Disposal Recording of Municipal Waste

A. Transportation

- Refuse lorries employed by licensed operators should be used to transport domestic waste from the site area.
- Sewage should be transported from site by licensed operators

B. Disposal

All such wastes should be disposed of at approved / licensed dumping areas.

5.6.4.4 System of Generation & Disposal Recording of municipal waste.

Amount of waste recycled and disposed of should be clearly recorded and the record should be available for inspection upon request

1. Monthly Summary Waste Flow Table (To be submitted to HEC not later than 15th of each month following the reporting month, or it is a General Holiday, the day following the General Holiday)
2. Yearly Summary Waste Flow Table (To be submitted to HEC not later than 1st June & 1st December of each year)

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	25 of 28
Waste Management Plan	Rev.	2

5.6.4.5 Training

Prior to commencement of the work, training and instruction should be provided to the site staff and workers on the concept of waste management procedures including the risk of municipal waste and the proper procedure for handling, waste reduction, on-site sorting arrangement, re-use and recycling of waste materials and site cleanliness.

On-going training in form of Tool Box Talk training should be provided to site staff and workers to refresh and promote the awareness on the concept of waste management procedures including the risk of municipal waste and the proper procedure for handling, waste reduction, on-site sorting arrangement, re-use and recycling of waste materials and site cleanliness.

5.7 Identification of Temporary Storage Areas

Sufficient space for temporary storage of C&D materials to facilitate collection and/or sorting on the site should be provided.

Except for those inert C&D materials to be reused on site, all other C&D materials should be removed off site as soon as practicable in order to optimize the use of the on-site storage space.

-END-

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	26 of 28
Waste Management Plan	Rev.	2

Appendix 1

Environmental Management Policy Statement

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	27 of 28
Waste Management Plan	Rev.	2



太平電業香港支店

Taihei Dengyo Kaisha Limited Hong Kong Branch
G/F., 100A Main Street, Yung Shue Wan, Lamma Island, Hong Kong
Tel. No.:(852) 2982-0571 Fax.No (852) 2982-1653

ENVIRONMENTAL MANAGEMENT POLICY

TDK, as the main contractor of Hong Kong Electric Co., Ltd, as well as our internal operations, are and delivered to the highest quality and conducted in an environmentally responsible manner. Our projects are required to be executed according to the latest environmental standards and whenever possible adopting the latest environmental technology. We will ensure that the projects are implemented in full compliance with the Environmental Impact Assessment Ordinance and other environmental legislative requirements.

Our aim is to reduce Construction and Demolition (C&D) Materials going to landfills. We place due emphasis on the need to sustain and where possible to improve the quality of our environment. We endeavor to achieve this through the implementation of our Environmental Management System and commitment to the following:

- Adopting technologies and measures both through project design and during construction to prevent or reduce environmental pollution and nuisance.
- Imposing environmental requirements on our contractors and consultants to ensure the mitigation and prevention of potential impacts resulting from projects managed by the Department.
- Monitoring the environmental performance of our contractors during construction works to ensure contractors' compliance with our environmental requirements.
- Observing the principles of Waste Reduction, Re-use, and Recycling wherever practicable and feasible.
- Ensuring compliance with relevant environmental legislative and other requirements.
- Providing environmental education and training to all staff to increase their awareness of environmental protection.
- Achieving continual improvement in environmental performance through the establishment and attainment of environmental objectives and targets.
- Promoting and implementing the waste management on site.
- Commit to provide sufficient resources and facilities for the implementation of environmental nuisance abatement and waste management;
- Commit to obtain and renew the necessary environmental licences, registrations and permits, and comply with the relevant statutory requirements and licensing standards.

Through providing sufficient resources and facilitates for the implementation on waste management, every member of staff will ensure that this Environmental Management Policy is understood, implemented and maintained.

We will seek to continually improve our environmental performance and will cause the waste management policy to be reviewed not less than once in each 2 years. A review may also be prompted by changes of particulars due to internal or external factors such as changes in technology, legislation or standards.

Mr. M. Fukura
Site Manager

Taihei Dengyo Kaisha, Ltd.

Effective Dated : 27th March, 2019

Next Review Date : 26th March, 2020.

TAIHEI DENGYO KAISHA, LTD.	Section No.	0
Project : Lamma Power Station Extension – Unit 11	Page	28 of 28
Waste Management Plan	Rev.	2



太平電業香港支店
 Taihei Dengyo Kaisha Limited Hong Kong Branch
 G/F., 100A Main Street, Yung Shue Wan, Lamma Island, Hong Kong
 Tel. No.:(852) 2982-0571 Fax.No (852) 2982-1653

環境保護管理政策

太平電業(株)作為香港電燈有限公司合約承建商，以確保所有工程是著重環保及高品質作為營運目標。此外，本公司會確保於工程進行其間會完全遵守環境評估條例與其他相關的環保法例。

本公司極為重視環境的質素改善及持續需要，為達到此目標，本公司必定致力執行下列環境管理政策和承諾：

- 在工程計劃和進行期間，採用防止或減少環境污染及騷擾的各種技術和措施。
- 於所有工程上會作出環保管制以確保工程對環境潛在的影響得以減輕及防止，此舉亦會加強於顧問及分判商。
- 監察所有太平的分判商在工作其間的環保表現，以確保符合本公司的環保要求。
- 在合理及可行的情況下實施廢物減量、重用及回收。
- 確保符合所有環保相關法例和要求。
- 對所有員工進行環境教育及培訓，以增加他們對環境保護的認識。
- 通過制定環境保護目標，來達至持續改善環保表現。
- 在工地內推動和實施廢物管理政策。

通過充足資源和設施來實施廢物管理，以確保所有員工清楚、實踐和持續執行環境保護管理政策。本公司會積極尋求方法持續改善環保表現，並就廢物管理政策進行不低於每兩年及不少於一次的審查。而內部或外界的個別變更，例如法例、技術或標準更改，此政策亦會作出修定。

福羅素弘
 地盤經理

生效日期：二零一九年三月二十七日

下次評檢日期：二零二零年三月二十六日