

Technical Guidance Document Outline for Wastewater Treatment Plant Permit Discharge Management Plan (DMP)

EAD-EQ-PCE-TG-17

Signature on Original		
Environment Quality Sector	* Corporate Management Representative	Secretary General
Originated By	Reviewed By	Approved By
* Refer to SG Circular S.G/C-08/12 Concerning Appointment and Responsibilities of the Corporate Management Representative at the Environment Agency – Abu Dhabi.		

Technical Guidance Document Outline for Wastewater Treatment Plant Permit Discharge Management Plan (DMP)

Table of Contents

1.0	Facility Description	4
1.1	Narrative overview description of the wastewater treatment processes used at the facility including disinfection and odor control methods.	4
1.2	Process flow diagram showing each pretreatment, primary, secondary, and tertiary treatment unit, as applicable to the facility.	4
1.3	Key WWTP design and operating parameters (for example, wastewater treatment flow capacity, daily and annual flow variation charts).	4
1.4	Description of treated wastewater effluent discharge methods used at the facility (for example, discharge to recycled water end-users, discharge to marine environment, discharge to evaporation lagoons, land application) including proportions of the facility's treated wastewater effluent output routinely discharged by each method.	4
1.5	WWTP site map showing locations of key site features described in facility description narrative (e.g., wastewater treatment units, treated wastewater storage units (for example, tanks, lagoons), discharge outfalls, evaporation lagoons, land application areas).	4
1.6	Narrative describing the collection system that supplies influent to the facility (e.g., population served, kilometers of service line, number of pump stations, etc.)	4
2.0	Recycled Treated Wastewater Effluent Use	4
3.0	Treated Wastewater Effluent Disposal	5
4.0	Biosolids Management	5
5.0	Unplanned and Emergency Discharges	5
6.0	Compliance Monitoring	5
7.0	Recordkeeping and Reporting	6

List of Tables

1.	Table Title	Error! Bookmark not defined.
----	-------------------	-------------------------------------

Technical Guidance Document Outline for Wastewater Treatment Plant Permit Discharge Management Plan (DMP)

List of Abbreviations

Abbreviation	Definition
For Example:	
AD EHS Center	Abu Dhabi Environment, Health, and Safety Center
CEMP	Construction Environmental Management Plan
CEHSP	Construction Environment, Health and Safety Plan
DMP	Discharge Management Plan
EAD	Environment Agency–Abu Dhabi
EAP	Environmental Action Plan
EHS	Environment, Health, and Safety
EHSMS	Environment, Health and Safety Management System
EIA	Environment Impact Assessment
EMP	Environmental Management Plan
EMS	Environmental Management System
EPA	Environmental Permit Application
MSDS	Material Safety Data Sheet
NOC	No Objection Certificate
ODS	Ozone-Depleting Substance
PCB	Polychlorinated Biphenyls
PER	Preliminary Environmental Review
SRA	Sector Regulatory Authority

Definitions of Terms

Term—Definition.

Term—Definition.

Purpose of This Guidance Document

A permit for a wastewater treatment plant (WWTP) issued by Environment Abu Dhabi (EAD) requires that the treated wastewater effluents and the associated biosolids generated by the treatment processes be discharged from the facility site according to a written site-specific Discharge Management Plan (DMP). This plan is intended to specify the standard operating procedures that are used at the WWTP for routine discharge of wastewater effluents and biosolids from the WWTP; for corrective actions to be implemented in the event of effluent water quality exceedances or unplanned/emergency discharges; for monitoring the discharged effluents to demonstrate compliance with applicable water quality standards; and for accurate recordkeeping and reporting. The plan must also comply with relevant technical guidance documents from EAD such as EAD's *Technical Guidance Document for Wastewater and Marine Water Quality Monitoring, April 2011*.

Technical Guidance Document Outline for Wastewater Treatment Plant Permit Discharge Management Plan (DMP)

1.0 Facility Description

Section 1.0 provides background information about the wastewater treatment processes used at the facility. Included in this section would be:

1.1 Narrative overview description of the wastewater treatment processes used at the facility including disinfection and odor control methods.

Body Text

1.2 Process flow diagram showing each pretreatment, primary, secondary, and tertiary treatment unit, as applicable to the facility.

Body Text

1.3 Key WWTP design and operating parameters (for example, wastewater treatment flow capacity, daily and annual flow variation charts).

Body Text

1.4 Description of treated wastewater effluent discharge methods used at the facility (for example, discharge to recycled water end-users, discharge to marine environment, discharge to evaporation lagoons, land application) including proportions of the facility's treated wastewater effluent output routinely discharged by each method.

Body Text

1.5 WWTP site map showing locations of key site features described in facility description narrative (e.g., wastewater treatment units, treated wastewater storage units (for example, tanks, lagoons), discharge outfalls, evaporation lagoons, land application areas).

Body Text

1.6 Narrative describing the collection system that supplies influent to the facility (e.g., population served, kilometers of service line, number of pump stations, etc.)

Body Text

2.0 Recycled Treated Wastewater Effluent Use

Section 2.0 provides information about the recycling of the treated wastewater effluent, as applicable to the practices used at the facility. Included in this section would be:

1. Description of any on-site use of recycled treated wastewater effluent at the WWTP site.
2. List of water end-users receiving treated wastewater effluent from the facility including name, address, and contact information for each identified recycled water end-user.
3. List all applicable water quality standards.
4. Key facility design parameters for storage of recycled water at the WWTP site.

Technical Guidance Document Outline for Wastewater Treatment Plant Permit Discharge Management Plan (DMP)

5. Current percentages or volumes of the total WWTP annual treated wastewater effluent volume that are discharged to each identified recycled water end-user.

3.0 Treated Wastewater Effluent Disposal

Section 3.0 provides information about the disposal of treated wastewater effluent that is not recycled. Included in this section would be:

1. Description of the design for each outfall used for discharge of treated wastewater effluent to the sea, an evaporation lagoon, or other surface water body.
2. For sea outfalls, identification of the boundaries of the effluent mixing zone.
3. List all applicable water quality standards.
4. Description of methods used for land application of treated wastewater effluent.
5. Identification of the location, boundaries, and hydraulic characteristics of each land area onto which treated wastewater effluent is applied.

4.0 Biosolids Management

Section 4.0 provides information about the disposal of biosolids generated by the treatment processes. Included in this section would be:

1. Description of sources and quantities of biosolids generated at the facility.
2. Description of methods used for disposal of biosolids.

5.0 Unplanned and Emergency Discharges

Section 5.0 provides information about non-routine discharges of untreated or treated wastewaters from the WWTP due to an unplanned or emergency event. Included in this section would be:

1. Description of potential events at the WWTP site that may result in unplanned or emergency discharges of untreated or treated wastewaters.
2. Description of locations at which non-routine discharges of untreated or treated wastewaters from the facility may occur.
3. Description of corrective actions to be implemented by the facility workers to mitigate the impact of an unplanned or emergency discharge.
4. Description of a notification protocol, which includes a plan to notify EAD of any unplanned discharge within 12 hours of the event, detailing the volume, characteristics (treated/untreated), and location of the point of discharge.

6.0 Compliance Monitoring

Section 6.0 provides information about the monitoring of treated wastewater effluent discharged from the facility. Included in this section would be:

1. Identification of the individual water quality standards applicable to the wastewater effluents and biosolids discharged from the WWTP.
2. Description of monitoring station locations and equipment used for collecting representative samples of discharged treated wastewater effluent on a routine basis.
3. Description of protocols used for handling and analysis of collected samples.

Technical Guidance Document Outline for Wastewater Treatment Plant Permit Discharge Management Plan (DMP)

7.0 Recordkeeping and Reporting

Section 7.0 describes the procedures used for recordkeeping and reporting to demonstrate compliance with the facility's permit conditions. Included in this section would be:

1. Description of the automated and manual methods, as applicable, used for monitoring data acquisition, storage, and retrieval.
2. Description of the calculation protocols used for analysis and summary of the recorded monitoring data.
3. Description of the content and format of periodic reports submitted to EAD summarizing the monitoring. Reports must include not only monitoring data but also analysis of the data relating to whether any permit requirements have been violated or Abu Dhabi standards exceeded. In the event of such non-compliance, reports must include the additional content described in item 4 below. The report content and data format must comply with all applicable EAD reporting requirements and technical guidance documents.
4. Description of the content and format of non-compliant discharge reports submitted to EAD summarizing permit violations and corrective action procedures. Content must include:
 - The date when each exceedance occurred
 - Details (e.g., coordinates) regarding where the exceedance was found
 - Magnitude of each exceedance of applicable limit (report exceedances in the units of the standard and averaging)
 - Nature or cause of each exceedance of the applicable standard and averaging period
 - Methods to plan and implement corrective actions to assess how exceedances have impacted the environment, to repair or limit environmental damage caused by exceedances, and to correct the causes of exceedances in a timely manner so they do not recur.
5. Description of the content and format of unplanned or emergency discharge reports submitted to EAD summarizing the discharge event and corrective action procedures. Content must include:
 - The date and duration when the discharge occurred
 - A full description of the event, including the person in charge and location of the discharge point(s).
 - The volume of wastewater discharged
 - The characteristics of the wastewater discharged
 - Summary of the corrective action taken, the root cause analysis, and discharge area remediation plan (if applicable).

Technical Guidance Document Outline for Wastewater Treatment Plant Permit Discharge Management Plan (DMP)

Document Change History

Doc. No.	Rev. No.	Rev. Date	Revision Description	Page No.	Approved by
EAD-EQ-PCE-TG-17	00	14 April 2014	First Issue		SG
Remarks:					