

**Overview of the Water Environment Standards and
Effluent Standards and Its Implementation
Myanmar**

Mu Mu Than
Assistant Director
Irrigation and Water Utilization Management Department

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Overview of the Environmental Standards

Legal Framework

- Environmental Conservation Law, 2012
- Environmental Conservation Rules, 2014
- Environmental Impact Assessment Procedure, 2015
- Environmental Quality (Emissions) Guidelines, 2015

Environmental Quality (Emissions) Guidelines

- Initiating 2013 by the assist of ADB
- Financial supporting by EU in 2014
- Based on International Finance Corporation (IFC)
Guideline

Emission Guidelines

General Guidelines

- Air Emission
- Wastewater
- Noise
- Odor

Industrial-specific Guidelines

- Energy Sector Development
- Agriculture, Livestock and Forestry Development

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- Manufacturing
 - Food and Beverages Manufacturing
 - Garments, Textile and Leather Product
 - Wood Manufacturing
 - Chemicals Manufacturing
 - Manufacture of Glass and Ceramics
 - Manufacture of Construction Materials
 - Metal, Machinery and Electronics
- Waste Management
 - Solid Waste Management Facilities
 - Wastewater Treatment Facilities
 - Biosolids and Sludge Disposal
- Water Supply
 - Portable Water Treatment Facilities

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- Infrastructure and Service Development
 - Shipping
 - Ports, Harbors and Terminals
 - Health Care Facilities
 - Tourism and Hospitality Development
 - Railways
 - Airports
 - Airlines
 - Roads
- Mining
 - Construction Materials Extraction
 - Ore and Mineral Extraction

Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/ l	50
Ammonia	mg/ l	10
Arsenic	mg/ l	0.1
Cadmium	mg/ l	0.1
Chemical oxygen demand	mg/ l	250
Chlorine (total residual)	mg/ l	0.2
Chromium (hexavalent)	mg/ l	0.1
Chromium (total)	mg/ l	0.5
Copper	mg/ l	0.5
Cyanide (free)	mg/ l	0.1

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Parameter	Unit	Guideline Value
Cyanide (total)	mg/ l	1
Fluoride	mg/ l	20
Heavy metals (total)	mg/ l	10
Iron	mg/ l	3.5
Lead	mg/ l	0.1
Mercury	mg/ l	0.01
Nickel	mg/ l	0.5
Oil and grease	mg/ l	10
pH	S.U. ^a	6-9
Phenols	mg/ l	0.5
Selenium	mg/ l	0.1
Silver	mg/ l	0.5

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Parameter	Unit	Guideline Value
Sulphide	mg/ l	1
Temperature increase	°C	< 3 ^b
Total coliform bacteria	100 ml	400
Total phosphorus	mg/ l	2
Total suspended solids	mg/ l	50
Zinc	mg/ l	2

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Site Runoff and Wastewater Discharges (Construction Phase)

Parameter	Unit	Maximum Concentration
Biological oxygen demand	mg/ l	30
Chemical oxygen demand	mg/ l	125
Oil and grease	mg/ l	10
pH	S.U. ^a	6-9
Total coliform bacteria	100 ml	400
Total nitrogen	mg/ l	10
Total phosphorus	mg/ l	2
Total suspended solids	mg/ l	50

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Waste Management

No.	Type of Economic Activity	Criteria for IEE Type Economic Activities	Criteria for EIA Type Economic Activities
1.	Non-Hazardous Waste Disposal Facilities	Landfills < 10 t/d and total capacity < 25,000 t Others < 50 t/d	Landfills ≥ 10 t/d or total capacity ≥ 25,000 t Others ≥ 50 t/d
2.	Non-Hazardous Waste Incinerators	< 3 t/h	≥ 3 t/h
3.	Non-Hazardous Waste Recycling, Recovery or Reuse Facilities	< 50 t/d	≥ 50 t/d
4.	Hazardous Waste Disposal Facilities	-	All sizes
5.	Hazardous Waste Recycling, Recovery or Reuse Facilities	< 10 t/d	≥ 10 t/d
6.	Wastewater Treatment Plants (centralized systems)	-	All sizes
7.	Wastewater and Storm Water Collection Systems	Length ≥ 1 km but < 10 km	≥ 10 km

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Wastewater Treatment

Wastewater treatment plant (Conventional and old sewage system)

- Yangon
- Nay Pyi Taw

Septic Tank

Cities and other areas

- Some private housing estate, residence buildings and industrial parks are using vacuum disposal trucks to carry the disposal wastewater to the treatment plant.

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Future Scenario

Yangon

- 5 Years Master Plans for Sanitation Project including the new settlement areas.

Mandalay

- Implementation a wastewater treatment plant in Mandalay City by the assist of Asia Development Bank (ADB).

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Challenges

- **Industrial Wastewater Management**

- Lack of the right technologies.
- Lack of appropriate monitoring facilities, proper and systematic keeping of records.
- Lack of regular monitoring and surveillance data for water quality control.
- Need proper industrial zone management strategy.
- Need to be grown for good water treatment technologies.

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- **Domestic Wastewater Management**

- Need to construct a new sewer treatment plant to cover all people who are residing not only urban area but also sub-urban area.
- Other cities are also dealing with similar issues.

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- **Urban and Rural Sanitation**

- In the urban area there exist several types of sanitation such as septic tank (Common and individual), pour flush system, fly proof (chute system), unsanitary latrine and no latrine.
- In the rural areas only simple latrines are in use.

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Conclusion

- Myanmar will engage into a path of more industrialization. Economic growth in developing countries often goes hand in hand with a huge urbanization process.
- The region of Yangon with a currently estimated population of 6 million people. But also other cities in Myanmar will experience urbanization, and at the same time the water supply in the rural areas need to be upgraded as well.
- Myanmar need to establish a lot of potential for drinking water supply water purification, wastewater treatment, urban drainage improvements and solid waste management.

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Thank You
for your kind attention!