



Abu Dhabi Specification

معايير أبوظبي الفنية



ADS 23/2017

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Environmental Specifications for Land-Based Liquid Discharges to the Marine Environment

المعايير البيئية للتصريفات السائلة من المصادر
البرية إلى البيئة البحرية



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About the Abu Dhabi Quality and Conformity Council

The Abu Dhabi Quality and Conformity Council (QCC) was established by law No. 3 of 2009, issued by His Highness Sheikh Khalifa Bin Zayed Al Nahyan, President of the UAE.

QCC is responsible for the development of Abu Dhabi Emirate's quality infrastructure, which enables industry and regulators to ensure that products, systems and personnel can be tested and certified to UAE and international standards.

Products certified by QCC receive the Abu Dhabi Trustmark. The Trustmark is designed to communicate that a product or system conforms to various safety and performance standards that are set by Abu Dhabi regulators.

1. Foreword

The QCC "Quality of Liquid Discharges to Marine" working group was established in August 2017 with a task of reviewing local, UAE and international standards related to the subject with the objective of harmonizing and updating the required standard to be agreed by all the relevant entities at the level of Abu Dhabi Emirate. Abu Dhabi Specifications (ADS) will be developed on subjects that have no or inadequate specifications, or not covered by local legislation and will then be submitted to ESMA as proposed UAE Standards, and in alignment with Federal Laws, Regulations and Cabinet Decisions.

2. Purpose

The objective of this document is to set relevant and appropriate quality specifications for all liquid Discharges to the Marine Environment (except for brine coming out of desalination and power plants in addition to offshore and inshore platforms) where the maximum allowable concentrations based on best local and international practices for the long-term protection of marine life and human health are to be considered taking into consideration available data at the Environment Agency-Abu Dhabi (EAD) and at other Regulatory Authorities as well. These specifications set Discharge quality limits for physical, chemical and microbiological parameters.

3. Acknowledgement

QCC would like to thank the members of the Working Group listed below.

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4. Scope

These specifications apply to all types of liquid Discharges to the Marine Environment from land-based activities including industrial, domestic and commercial Discharges.

Exemptions:

- Reject brine that is discharged from desalination and power plants including similar facilities from industrial entities.
- Any Discharges from sea-based activities including Discharges from ships, vessels, and platforms.
- For oil and gas sector in the Emirate, the Supreme Petroleum Council (SPC)/Abu Dhabi National Oil Company (ADNOC) is the authority regulating and managing petroleum affair independently (Law No. 1 of 1998: Constitution of the SPC).

5. Terms and Definitions

TERM	DEFINITION
Accredited Laboratory	A laboratory certified, to perform the tests, by an independent accreditation body and conforming to the requirements of ISO 17025, or any other laboratory approved by QCC
Ambient Temperature	The temperature of the surrounding marine water
Competent Authority	The Environment Agency – Abu Dhabi (EAD) is the Competent Authority for the Emirate of Abu Dhabi responsible for environmental affairs
Discharge	Any effluent discharges into the marine environment
Emirate	The Emirate of Abu Dhabi
Entity	Any individual, company, a subsidiary of the Abu Dhabi Government, association, society, partnership, corporation, institution, or group that owns or operates an industrial, tourism, municipal, or commercial facility that generates/collects liquid discharges or undertakes projects
Environmental Permit	A document issued by the Competent Authority to the entity after assessing the environmental impacts of its activities
Marine Environment	The marine waters and their contents of natural resources, plants, fish, other marine creatures and the above atmosphere as well as projects established in the marine environment. The boundaries of the marine environment extend to the economic zone of the Emirate
Marine Protected Areas	A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values
Point of Discharge	The location at which discharges are disposed of to the marine environment. In case there is a channel that carries the discharges, the point of discharge of the channel is the point end of the channel where discharges mix with sea water
Regulatory Authority	A government entity within the Emirate of Abu Dhabi responsible for the regulation of generating, handling, treatment, transportation and disposal of liquid discharges

6. General Requirements

- No liquid discharges are allowed to be disposed of in Marine Protected Areas (MPAs) regardless of its quality, unless such activities are permitted as per requirements of the Emiri Decree of each MPA.
- These specifications shall be taken into consideration by the Regulatory Authorities for all processes that may include disposal of liquid Discharges to the



Marine Environment from land-based activities as well as from dredging and filling activities.

- The Competent Authority shall foster and promote the concept of recycle/reuse to minimize, as much as practical, Discharges to the Marine Environment.
- The Competent Authority will coordinate with relevant Regulatory Authorities for the proper implementation of these specifications for legal point Discharges to the storm water network. As for construction dewatering activities, the current management practices between the Competent Authority and the Regulatory Authorities will still be applicable so that no additional implications will be on the authorities as well as the developers including citizens and residents. In addition, the Competent Authority will work in close coordination with Regulatory Authorities to develop an integrated environmental protection management plan aiming at preventing pollution to storm water network. For the storm water network, such plan shall not contravene with operational and maintenance activities as well as mandates of relevant Regulatory Authorities.
- The Entity shall consider all best management practices to minimize Discharges to the Marine Environment.
- It is not permitted for any Entity to Discharge liquids to the Marine Environment with quality that does not meet requirements of these specifications.
- It is not permitted to dilute liquid Discharges by mixing it with fresh water to meet requirements of these specifications.
- The Entity and/or the Regulatory Authority shall submit to the Competent Authority, on regular basis and as per requirements of the Competent Authority, documents that demonstrate the quality of liquid Discharges to the Marine Environment as specified in the Environmental Permit requirements or by EAD guidelines and requirements. The permit shall specify exactly the Point of Discharge, where samples are to be collected, on case-by-case basis.
- EAD shall check compliance of the Discharge quality in accordance with requirements of these specifications as part of its permitting processes, and as per the requirements of the environment studies approved by EAD.



- The Competent Authority will consider, in close consultation with the Regulatory Authorities and research centers, investigating potentials of including limits for health protection products once sufficient data will be available on levels of such compounds in Discharges to the Marine Environment.
- EAD has the right to revoke an entity's environmental permit that allows it to dispose discharges to the marine environment if EAD concludes that such discharges are not in compliance with the requirements of these specifications, or that discharges will cause adverse impacts to the marine environment.

7. Technical Requirements

- Quality of all liquid Discharges to the Marine Environment at the Point of Discharge shall comply with the limits listed in Table (1).
- All Discharges to the Marine Environment shall be free of:
 - Floating debris, scum, foam and other matters in concentrations that create a visible film or sheen on the surface.
 - Substances in concentrations that produce objectionable color and odor.
 - Any non-biodegradable material including (but not limited to) the following: organo- phosphorus pesticides, organo-chlorinated pesticides, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, volatile and semi-volatile organic hydrocarbons, solvents, and herbicides.
- The Competent Authority may specify any other materials to be prohibited substances.
- Entities permitted by EAD that dispose of liquid Discharges to Marine Environment shall conduct regular sampling and testing programs as per EAD requirements to assess compliance with these specifications, and shall report to EAD on the Discharge quality & quantity as per the Environmental Permit conditions or any other regulations.



- These specifications shall not contravene the existing regulatory reporting/compliance arrangements where ADNOC Group company's performance and compliance issues are reported to SPC.
- Entities shall keep records of its liquid Discharges to the Marine Environment for a minimum of five years.
- EAD has the right to collect and analyze samples as needed to check compliance with the requirements of these specifications.
- In case of any non-compliance to the requirements mentioned in these specifications, entities shall take all necessary remediation measures as per the requirements of the Competent Authority, and shall be subjected to legal implications.
- If EAD concludes that discharges exceed the specifications, then EAD will enforce/work with the entity and/or the regulatory authorities to comply with the requirements of these specifications.
- For any parameters not identified, specifications shall be decided by the Competent Authority on a case-by-case basis.

Table (1): Maximum allowable concentrations of discharges to marine at point of discharge

Parameter	Symbol	Unit	Limit
Total Suspended Solids	TSS	mg/l	50
pH	---	pH Unit	6.0 – 9.0
Temperature	---	°C	± 5 from ambient
Turbidity	---	NTU	75
Ammonia (as Nitrogen)	NH ₃ -N	mg/l	2.0
Nitrate (as Nitrogen)	NO ₃ -N	mg/l	30.0
Free Residual Chlorine	Cl ₂	mg/l	0.5
Cyanide	CN	mg/l	0.05
Dissolved Oxygen	DO	mg/l	≥ 3.0
Fluoride	F	mg/l	10
Sulfide	S ⁻	mg/l	0.1



Biochemical Oxygen Demand (5-days incubation)	BOD ₅	mg/l	30
Total Kjeldahl Nitrogen (as Nitrogen)	TKN	mg/l	10
Phosphate (as P)	PO ₄ -P	mg/l	2.0
Chemical Oxygen Demand	COD	mg/l	100
Aluminum	Al	mg/l	20
Antimony	Sb	mg/l	0.1
Arsenic	As	mg/l	0.05
Barium	Ba	mg/l	2.0
Beryllium	Be	mg/l	0.05
Boron	B	mg/l	1.0
Cadmium	Cd	mg/l	0.05
Chromium, total	Cr	mg/l	0.2
Chromium VI	Cr ⁺⁶	mg/l	0.15
Cobalt	Co	mg/l	0.2
Copper	Cu	mg/l	0.5
Iron	Fe	mg/l	2.0
Lead	Pb	mg/l	0.1
Manganese	Mn	mg/l	0.2
Mercury	Hg	mg/l	0.001
Nickel	Ni	mg/l	0.1
Selenium	Se	mg/l	0.02
Silver	Ag	mg/l	0.005
Zinc	Zn	mg/l	0.5
Fat, Oil and Grease	FOG	mg/l	10
Phenols	---	mg/l	0.1
Total Organic Carbons	TOC	mg/l	75
Fecal Coliform Bacteria	TFCC	CFU or MPN/100ml	1000
Helminth Ova	---	Ova/l	None

Note: NTU: Nephelometric Turbidity Unit; mg/l: milligram per liter; ml: milliliter; CFU: Colony Forming Unit; MPN: Most Probable Number



8. Quality Control

- Samples collection and preservation shall be conducted in accordance with the “Standard Methods for the Examination of Water and Wastewater, APHA”, or any equivalent approved sampling procedures.
- Testing shall be conducted as per procedures of the “Standard Methods for the Examination of Water and Wastewater, APHA” or any equivalent approved testing procedures.
- Testing shall be conducted by an Accredited Laboratory.
- The arithmetic mean of the test results is used to assess the compliance with requirements of these specifications, except for TFCC where the geometric mean is applied. Other averages may be requested as may be deemed necessary by EAD on case-by-case basis and if and when required.
- A parameter is deemed to be non-compliant if its concentrations from ten percent (10%) of samples or more, taken from the same location within one calendar year period, exceed the maximum allowable concentration for the same parameter.



9. Abbreviations and Acronyms

ADNOC	Abu Dhabi National Oil Company
ADS	Abu Dhabi Specifications
APHA	American Public Health Association
EAD	Environment Agency–Abu Dhabi
ESMA	Emirates Authority for Standardization and Metrology
ISO	International Organization for Standardization
MPAs	Marine Protected Areas
QCC	Abu Dhabi Quality and Conformity Council
SPC	Supreme Petroleum Council
TFCC	Total Faecal Coliform Count
UAE	United Arab Emirates



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