

## **ABBREVIATIONS**

AA Annual Average

Al Aluminium

Al<sub>2</sub>O<sub>3</sub> Alumina (Aluminium Oxide)

AlF<sub>3</sub> Aluminium Fluoride

Aluminium Plant Carbon Plant, Reduction Plant, Casthouse, Anode Service Area, and related utilities.

ASA Anode Service Area
ASP Anode Service Plant
BAM Beta-Attenuation Metre

BAT(NEEC) Best Available Techniques (Not Entailing Excessive Cost)

BC Background Concentration

BCP Butt Cleaning Plant

BPT Best Practicable Technology

BRC Background Reference Concentration

bgl Below ground level

BOD Biochemical Oxygen Demand

BPEO Best Practicable Environmental Option

BREF note Best Available Techniques Reference Document

btc Below top of casing

BTEX Benzene, Toluene, Ethylbenzene and Xylene

oC Degrees Celsius

C Carbon

CaO Lime (calcium oxide)

CCC Criteria Continuous Concentration

CCP Carbon Crushing Plant

Cd Cadmium
CD Chart Datum

CDM Clean Development Mechanism
CEM Continuous Emissions Monitoring

 ${\rm CH_4}$  Methane  ${\rm Cl}$  Chloride(s)

CMC Criteria Maximum Concentration

CN Cyanide

CO Carbon Monoxide
CO<sub>2</sub> Carbon Dioxide

COD Chemical Oxygen Demand
Cr (VI) Chromium (hexavalent)



CREL Chronic Reference Exposure Level
CSR Corporate Social Responsibility

CWMP Construction Waste Management Plan

Cu Copper

dB(A) 'A' weighted decibel noise level

dBL<sub>Aeq</sub> 'A' weighted energy-equivalent decibel noise level

DIV Dutch Intervention Values

DO Dissolved Oxygen

DRI Direct Reduction Iron

DTV Dutch Target Values

EC European Commission

El Extrusion Ingots

EIA Environmental Impact Assessment
EMP Environmental Management Plan

EPC Engineering, Procurement and Construction

EPS Environmental Protection Standards
EQS Environmental Quality Standard

ET Enviro Technology
EU European Union
F- Fluoride(s)

FA Foundry Alloy

FTP Fume Treatment Plant
GDP Gross Domestic Product
GHG(s) Greenhouse Gas(es)

GPS Global Positioning System
GWP Global Warming Potential

HAL 275 Norsk Hydro Reduction Technology

HAZID Hazard Identification
HCI Hydrogen chloride
HF Hydrogen fluoride

HSE Health, Safety and Environment
HTM Heating Transfer Medium

Hydro Norsk Hydro ASA

g/s Grams per second

IEA Initial Environmental Authorisation
IFC International Finance Corporation

ILSC Indicative Levels of Serious Contamination

IPP Independent Power Producer



ISQG Interim Sediment Quality Standard

JV Joint Venture

K Kelvin
km Kilometre
kV Kilovolt

kt/yr Thousands of tonnes per year

kPa Thousand Pascal

I Litre

LC-50 Lethal Concentration of a chemical which kills 50% of a sample population

L<sub>eq</sub> Unweighted energy-equivalent noise level

LNB Low NOx Burner
I/s Litres per second

L<sub>WA</sub> 'A' weighted sound power level

m Metre

m/s Metres per second

m<sup>3</sup>/s Cubic metres per second

MAC Maximum Allowable Concentration
MEI Ministry of Energy and Industry

mg/kg Milligrams per kilogram
mg/l Milligrams per litre

mg/m<sup>3</sup> Milligrams per cubic metre

mg/Nm<sup>3</sup> Milligrams per normal cubic metre (i.e. expressed at 273K and 101.3 kPa); in the case of gas

turbines, gas volumes in units of "Nm3" are also expressed as dry gas, at 15% O2.

MIC Mesaieed Industrial City

ml Millilitre

MMAA Ministry of Municipal Affairs and Agriculture

MPA Maximum Permissible Addition

MPC Maximum Permissible Concentration

MSm<sup>3</sup> Million standard cubic metres

MW Megawatts

MWe Megawatts electrical (electrical output)

MWth Megawatts thermal (thermal input)

MHWTC Mesaieed Hazardous Waste Treatment Centre

MMWDS Mesaieed Municipal Waste Disposal Site

N Nitrogen
Na Sodium
Na<sub>3</sub>AlF<sub>6</sub> Cryolite

NaCl Sodium chloride (salt)



NDUV Non-dispersive ultraviolet
NEC No Effect Concentration

NGO Non-Governmental Organisations

Ni Nickel

NILU Norwegian Institute for Air Research

Nm³ Normal cubic metre (i.e. expressed at 273K and 101.3 kPa); in the case of gas turbines, gas

volumes in units of "Nm3" are also expressed as dry gas, at 15% O2

Nm<sup>3</sup>/s Normal cubic metres per second (i.e. expressed at 273K and 101.3 kPa); in the case of gas

turbines, gas volumes in units of "Nm3" are also expressed as dry gas, at 15% O2

NMVOC Non-Methane Volatile Organic Compounds

N<sub>2</sub>O Nitrous oxide

NO Nitrogen monoxide/nitric oxide

NO<sub>2</sub> Nitrogen dioxide
NO<sub>x</sub> Oxides of nitrogen

NTU Nephelometric Turbidity Units

 $O_2$  Oxygen  $O_3$  Ozone

P Phosphorous

P Power

PAH Polycyclic Aromatic Hydrocarbons

Pb Lead

PCBs Polychlorinated Biphenyls
PCC Petrochemical Complex
PEL Probable Effect Level
PFC Polyfluorocarbons

PM<sub>10</sub> Particulate matter with an effective aerodynamic diameter of less than 10 micrometers PM<sub>2.5</sub> Particulate matter with an effective aerodynamic diameter of less than 2.5 micrometers

POCP Photochemical Ozone Creation Potential

PPAH Pollution Prevention and Abatement Handbook

ppb (v) (w) Parts per billion (volume) (weight)
ppm (v) (w) Parts per million (volume) (weight)
ppt (v) (w) Parts per thousand (volume) (weight)

QAFAC Qatar Additives Company
QAFCO Qatar Fertiliser Company
QASCO Qatar Steel Company Ltd

Qatalum The Hydro/QP Aluminium and Power Plant Project

QEWC Qatar Electricity and Water Company

QNHD Qatar National Height Datum (QNHD is ~1.3 m above Chart Datum)



QP Qatar Petroleum

RCEP Royal Commission on Environmental Pollution

REL Reference Exposure Level

ROPME Regional Organisation for Protection of the Marine Environment

RTO Regenerative Thermal Oxidiser

S Sulphur

SARC Scientific and Applied Research Centre

SCENR/SCE Supreme Council for the Environment & Natural Reserves

SAP Socio-Economic Action Plan

SO<sub>2</sub> Sulphur dioxide SPL Spent Potlining

SSEIA Scoping Study for Environmental Impact Assessment Report

SWS Seawater Scrubber
t/d Tonnes per day
t/h Tonnes per hour
t/yr Tonnes per year

TNMHC Total non-methane hydrocarbons

TOC Total Organic Carbon
TOM Total Organic Matter

TPH Total Petroleum Hydrocarbons

TSS Total Suspended Solids
TWA Time Weighted Average

UN United Nations

UNEP UN Environmental Program

US EPA United States Environmental Protection Agency

VDC Vertical Direct Chill (Casting Machines)

VOC Volatile Organic Compounds

WB World Bank

WBT Wet Bulb Temperature

WB PPAH WB Pollution Prevention and Abatement Handbook

WHO World Health Organisation
WMP Waste Management Plan  $\Delta T \qquad \qquad \text{Temperature differential} \\ \mu g/l \qquad \qquad \text{Microgrammes per litre}$ 

μg/m³ Micrograms (one millionth of a gram) per cubic metre

μm Micrometers

μM/I Micromoles per litre