KINGDOM OF SAUDI ARABIA

ROYAL COMMISSION FOR JUBAIL AND YANBU

ROYAL COMMISSION ENVIRONMENTAL REGULATIONS

2015

Volume III

PENALTY SYSTEM

Environmental Protection and Control Department

FOREWORD

A major objective of the Royal Commission has been industrialization coupled with environmental protection. Since inception, the Royal Commission has been determined that Jubail, Yanbu and Ras Al Khair would be models of environmental planning and management in addition to being productive manufacturing centers.

The real benefit of industrialization can be appreciated by society only if the environment and public health are protected. In this regard, it is to be emphasized that there must be a close cooperation between industries and environmental management personnel in order to achieve this goal.

The Royal Commission has formulated unified "Royal Commission Environmental Regulations (RCER)" to be adopted by industries in Jubail, Yanbu and Ras Al Khair to provide a safe and clean environment for the residents. Any facility operating or proposing to operate on Royal Commission property will be required to comply with these regulations.

The compliance with environmental regulations is essential in protecting public health and the environment. While voluntary compliance is desirable, the Environmental Penalty Scheme has been designed to supplement such compliance and ensure compliance with regulations to further assist in accomplishing the goals of the Royal Commission by deterring violations and encouraging voluntary compliance with the Environmental Regulations.

The Royal Commission recognizes that both environmental regulations and enforcement mechanism are necessary to provide an effective regulatory system to protect the environment from any of the adverse impacts which might be anticipated from the industrial activities and in turn to protect the public health at large.

It is indeed a great pleasure to see that industries in Jubail, Yanbu, and Ras Al Khair have been showing much commitment for the environment and have always cooperated closely with the Royal Commission. It is expected that such cooperation between industries and RC will continue in future.

Saud Bin Abdullah Bin Thenayyan Al-Saud

Chairman

The Royal Commission For Jubail and Yanbu

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LIST OF UNITS AND ABBREVIATIONS

APHA	-	American Public Health Association
AWWA	-	American Water Works Association
COD	-	Chemical Oxygen Demand
BOD	-	Biochemical Oxygen Demand
BTU	-	British thermal unit
C	-	degrees Centigrade
d	-	day
dBA	-	A-weight sound pressure level in decibels
DRE	-	Destruction and Removal Efficiency
dscm	-	dry standard cubic meter
EIA	-	Environmental Impact Assessment
EPC	-	Environmental Permit to Construct
EPO	-	Environmental Permit to Operate
ESQ	-	Environmental Screening Questionnaire
EERP	-	Environmental Emergency Response Plan
h	-	hour
H_t	-	Net heating value of a gas combusted in a flare
J	-	joule (equivalent to 0.239 calories)
kg	-	kilogram
kJ	-	kilojoules (equivalent to 1000 joules)
kPa	-	kilo Pascals
l	-	liter
L_{10}	-	noise level in decibels exceeded 10% of the time
lb	-	pound
lb/MBTU	-	pound per million British Thermal Units
min	-	minute
ml	-	milliliter
mm	-	millimeter
MPN	-	Most Probable Number
MW	-	Megawatt (equivalent to 10^6 watts of electricity)
NMHC	-	Non- methane hydrocarbon
NMOC	-	Non-methane organic carbon
NTU	-	Nephelometric Turbidity Unit
Pa	-	Pascal, a unit of pressure expressed as Nm^{-2}
pH	-	log_{10} (hydrogen ion concentration moles/l)
PAP	-	Permit Application Package
POHC	-	Principal Organic Hazardous Constituent
POM	-	Polycyclic Organic Matter
PME	-	Presidency of Meteorology & Environment.
ppm	-	parts per million (mass)
ppmv	-	parts per million volume
psi	-	pounds per square inch (gauge)
psia	-	pounds per square inch (absolute)
s	-	second
SAR	-	Sodium Adsorption ratio unit
scm	-	standard cubic meter
t	-	tonne (equivalent to 1000 kilograms)

TDS	-	Total Dissolved Solids
TKN	-	Total Kjeldahl Nitrogen
TOC	-	Total Organic Carbon
TPH	-	Total Petroleum Hydrocarbons
TSS	-	Total Suspended Solids
UST	-	Underground Storage Tank
Watt	-	Unit of power (equivalent to one joule per second)
WEF	-	Water Environment Federation
WMF	-	Waste Management Facility
WRF	-	Waste Recycling Facility

GLOSSARY

Abatement	reduction or lessening (of pollution) or doing away with (a nuisance) by legislative or technical means, or both
Acid gas flare	a flare used exclusively for the incineration of hydrogen sulfide and other acidic gases derived from natural gas sweetening processes
Affected facility	any stationary source that is affected by a standard regulation
Ambient air	air outside a facility boundary
Appurtenance	an adjunct or appendage which is an integral part of a tank, unit or apparatus
BAT	Best Available Techniques (BAT) is the application at facilities of the most effective and advanced production processes, methods/ technologies or operational practices to prevent and, where that is not practicable, to reduce emissions or discharges and other impacts to the environment as a whole. BAT must as a minimum achieve emission or discharge standards in these Regulations taking into account energy, environmental and economic impacts and other costs to the facility.
BIF	boiler or Industrial Furnace that burns liquid or solid hazardous materials other than fossil fuels.
Central Treatment Facility	the city Industrial Wastewater Treatment Plant (IWTP) or the city Sanitary Wastewater Treatment Plant (SWTP)
Chlorine Residual Combined (Available)	The residual consisting of chlorine that is combined with ammonia, nitrogen, or nitrogenous compounds (Chloramines)
Chlorine Residual Free (Available)	The residual consisting of hypochlorites ions (OCl⁻), hypochlorous acid (HOCl) or a combination of the two. These are the most effective in killing bacteria.
Chlorine Residual Total	The total amount of chlorine present in a sample. This is the sum of the free chlorine residual and the combined available chlorine residual.
Component (VOC service)	pumps, valves, compressors and pressure relief valves which are in contact with streams containing >10 wt% VOC
Component (organic HAP service)	flanges, connectors, pumps, valves, compressors and pressure relief valves which are in contact with streams containing >5 wt% organic HAP
Connector	flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment.
Day	refers to working day
Dredged Material	material excavated from the marine waters, including rock, gravel, sand, silt/clay, and mud
Dredging	the process of removing sediments beneath the surface waters by mechanical or hydraulic means
DRE	standard which verifies that a combustion unit is destroying the organic components found in hazardous waste.

GLOSSARY (Continued)

Duct burner	a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust
Emission inventory	the systematic compilation, either by measurement or estimation, of detailed information on pollutant emissions in a given area or facility
Emission standard	the amount of pollutant permitted to be discharged from a pollutant source
Existing facility	any facility which has received environmental approval from the Royal Commission before the effective date of these Regulations or a facility that is contracted for prior to the effective date of these Regulations provided that RC is informed.
Facility	any apparatus, installation, equipment or grouping thereof which is subject to an applicable standard or regulation
Flare	the flame produced by the disposal, in an arrangement of piping and a burner, of surplus or residual combustible gases
Fossil fuel	coal, petroleum, natural gas and any form of solid, liquid or gaseous fuel derived from such materials for the purpose of creating useful heat
Fugitive emission	any gaseous or particulate contaminant entering the atmosphere which could not reasonably pass through a stack, chimney vent, or other functionally equivalent opening designed to direct or control its flow
Generator	any operator of a facility whose process produces hazardous waste as defined in these Regulations or whose act first causes the hazardous waste to become subject to regulation.
Guideline	guideline values are for information, reference and study purposes
Habitat	an area occupied by an organism, population, or community that includes living and nonliving elements with specific characteristics including the basic needs for shelter and food.
HAP	Hazardous air pollutant (as specified in Table 2C).
Inhalable particulate	any substance dispersed in the atmosphere in the form of individual solid or liquid particles each of which is less than 10 microns in diameter.
Industrial City	All Industrial Cities under RC jurisdiction
Leachate	any liquid, including any suspended components in the liquid, that has percolated through or drained from solid waste.
Major upset	an unscheduled occurrence or excursion of a process or operation that results in an emission that contravenes the regulations or standards and is beyond immediate control, or a release that is initiated to protect life in the immediate or adjacent areas.

GLOSSARY (Continued)

Modification	any physical change to, or change in the method of, an existing facility which increases the unit capacity or contribution to pollution emitted into the atmosphere OR results in an impact to the environment not previously occurring.

Modified facility	any facility which is subject to modification as follows:
	    a. production increases greater than 10%
	    b. 10% increase in emissions or discharges from a facility
	    c. new pollutants are emitted or discharged.

New facility	any new facility/ project or plant
NOx	oxides of nitrogen, representing nitric oxide and nitrogen dioxide.
Nuisance	an act which causes material inconvenience, discomfort or harm and is persistent and likely to re-occur.
Opacity	the degree to which an emission of air contaminants obstructs the transmission of light expressed as a percent of light obstructed as per EPA Method 21.
Operator	any entity who operates or controls a facility at a given location to whom decisive economic power over the technical functioning of the facility has been delegated.
Point source	an individual air emission / pollutant source originating from a specific location.
POHC	selected "Principal Organic Hazardous Constituent" (POHC) which are high in concentration and difficult to burn, that are monitored to ensure its destruction and removal efficiency in a hazardous waste combustion units.
POM	Polycyclic Organic Matter.
Potable Water System	all facilities, including the desalination plants, groundwater abstraction systems and blending plants, producing water for the potable water network and the potable water storage and distribution systems connecting to these facilities to the end users.
Process Commissioning	Commissioning refers to the startup of the plant or unit after it has been designed and installed as per EPC conditions. A commissioning process may be applied not only to new projects but also to existing units and systems subject to expansion, renovation or revamping.
Process construction	construction in process areas. It excludes geo technical surveys, installation of fencing or construction of non-process facilities.
Pyro metallurgical processes	heating processes such as smelting, melting, roasting and refining used for the recovery of metals.
RCER	Royal Commission Environmental Regulations.

GLOSSARY (Continued)

Reconstructed facility	any facility that is dismantled, damaged or destroyed and is intentionally reconstructed following the original design in the same or different location.
Source	the point of emission or discharge of an air pollutant or effluent.
TEQ	releases of dioxins and furans are reported in units of toxic equivalence (TEQ) relative to the most toxic type of dioxin, 2,3,7,8-tetrachlorodibenzo-p-dioxin.
Third Party	the "Third Party" contractor is one who shall be selected on the basis of ability and absence of any conflict of interest.
Type I Facility	a facility that has significant potential for environmental harm including permanent or irreversible damage to public health or the environment during construction or operation. Type I facility typically includes primary industries and some larger secondary industries.
Type II Facility	a facility that has potential for moderate impacts to public health or the environment during construction or operation. Type II facility typically includes secondary industries and some larger support industries.
Type III Facility	a facility that has negligible or no impact on public health or the environment during construction or operation. Type III facility is typically support industries and commercial establishments.
True vapor pressure	the vapor pressure of a volatile substance under actual conditions of storage or transfer.
Used oil	any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities
Variance stream	a non-cooling water discharge to the seawater cooling system.
VOC	Volatile Organic Compound - any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The following have been determined to have negligible photochemical reactivity, and are not VOCs:

GLOSSARY (Continued)

VOC (Continued)	
	* methane; ethane; acetone; cyclic, branched or completely methylated siloxanes; methylene chloride (dichloromethane); perchloroethylene (tetrachloroethylene); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorotrifluormethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCHC-22); trifluoromethane (HFC-23); 1,2-dichloro 1,1,2,2-tetrafluorothane (CFC-114); Chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a);2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1 trifluoroethane (HCFC-143a); 1,1-difluoroethane (HFC-152a); parachlorobenzotrifluoride (PCBTF); 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb); 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee); and perfluorocarbon compounds which fall into these classes: cyclic, branched or linear completely fluorinated 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a);2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1 trifluoroethane (HCFC-143a); 1,1-difluoroethane (HFC-152a); parachlorobenzotrifluoride (PCBTF); 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb); 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee); and perfluorocarbon compounds which fall into these classes: * cyclic, branched or linear completely fluorinated alkanes * cyclic, branched or linear completely fluorinated ethers with no unstaturations * cyclic, branched or linear completely fluorinated tertiary amines with no unstaturations * sulphur containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine.

GLOSSARY (Continued)

WMF	Waste Management Facility which stores, treats, disposes of wastes using physical, chemical, thermal, landfilling and other techniques
WRF	Waste Recycling Facility which recovers all recoverable and resalable materials out of wastes before disposing the residual wastes

1   INTRODUCTION

Industrialization with environmental protection is a major objective of the Royal Commission whereby all the communities, public bodies and private sector organizations in Jubail Industrial City, Yanbu Industrial City, and Ras Al Khair Industrial city, (hereinafter referred to as "the Industrial City"), join in a common effort to maintain the quality of the environment. The Royal Commission Environmental Regulations provide a framework to ensure this objective is achieved. While voluntary compliance is desirable, the Environmental Penalty Scheme has been designed to supplement such compliance and ensure compliance with regulations to further assist in accomplishing the goals of the Royal Commission by deterring violations and encouraging voluntary compliance with the Environmental Regulations.

The penalty scheme describes the general principles for determining the penalties that the Royal Commission deems appropriate to deter violations of specific environmental regulations and encourage facility compliance. It is based primarily on following considerations:

- The nature of violation;
- The magnitude and duration of violations by the industry;
- The economic benefit gained by the violator.
- The economic advantage over others who incurred costs for compliance.
- The prior compliance history of the facility

APPLICABLE REGULATIONS

The Royal Commission Regulations referred in this document are as follows:

Royal Commission Environmental Regulations (RCER)-2015, Volume I : Regulations and Standards, and Volume II: Environmental Permit Program

2   SCOPE OF THE PENALTY SYSTEM

2.1   Objective

The Royal Commission penalty system is designed to assess and recover fines resulting from non-compliance with the environmental regulations for the respective industrial cities. The objective of the penalty system is to enforce compliance with RCER. As such, all industries are encouraged to develop and implement compliance plans and, where non-compliant, commit to a schedule of corrective measures to achieve compliance.

2.2   Authority

The Royal Commission requires all operators of industrial facilities located in the Industrial City, to operate their facilities in accordance with the environmental regulations of the Royal Commission.

2.3   Applicability

2.3.1   General

The penalty system is applicable to the operator of a facility that is subject to the relevant Royal Commission environmental regulations.

2.3.2   Contractors and Third Parties

The operator of a facility shall be fully responsible for violations occurring at their facility as a result of the activities of contractors or other third parties.

2.3.3   Transfer of Ownership

In case of transfer of ownership as a result of a facility sale, change of name and/or creation of a joint venture, the obligations and liabilities associated with the Royal Commission Environmental Penalty System shall be transferred to the operators of the new entity.

2.3.4   Exemptions

A facility that is in violation of an applicable environmental regulation as a result of extraordinary interruptions resulting from natural causes, failure of utilities that are not under the Operator's responsibility or hostilities shall not be subject to the provisions of this penalty system.

3   COMPUTATION OF NON-COMPLIANCE FINES

When issuing a penalty, the Royal Commission shall take into account the nature, circumstances and gravity of the violation together with the cost of any compliance measures. Consideration shall also be given to any history of prior offenses, any actions taken by the operator to minimize or mitigate the effects of the violation and any good faith efforts made by the operator of the facility toward earlier compliance.

There shall be two types of penalties: "Fixed Penalties"- to be applied due to non-compliance of any environmental regulations and "Variable Penalties" – to be applied due non-compliances of emission and discharge standards. Violations of environmental regulations shall result in specific fines which are determined depending on the violation classification. Every regulation has an associated violation classification as specified in Table 1.

3.1   Fixed Penalties

Fixed penalties apply to violations of regulations that are not associated with an environmental emission or discharge standard. For example, violations of operational, permitting, monitoring, reporting and record keeping regulations result in a fixed penalty.

3.1.1   Violation Classification

There are four violation classes that result in fixed penalties:

Class 0 :   Warning
Class 1:   Minor Violation
Class 2:   Moderate Violation
Class 3:   Major Violation

3.1.2   Impact Weightage

The violation classification is further subdivided according to an assessment made by the Royal Commission of the environmental or health impact of the violation. The violation subclass is used to provide weighting to the fixed penalty fines. There are four violation subclasses:

Subclass A   Negligible Impact
Subclass B   Significant Impact
Subclass C   Severe Impact
Subclass D   Hazardous Impact

The Royal Commission may take into account the following factors when designating a violation subclass:

- the degree of harm to human health or the environment caused by the

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       violation
- the existence of multiple violations of a specific regulation
- the duration of the violation prior to discovery
- the accidental, negligent or willful nature of the violation

3.1.3 Fixed Penalty Fines

The fine structure for fixed penalties is shown in Appendix A.

A Class 0 violation, with no associated fine, may be issued by the Royal Commission for offenses of any regulation where it is determined that a formal warning is more appropriate than a fine. If an industry keeps on repeating a zero class violation, other violation classes may be applied.

3.1.4 Fixed Penalty - Repetitive Violations

All fixed penalty fines may be increased by a multiplication factor (m) in the event that the violation is a repetition of an earlier offense committed within the previous two years. The following formula based on the number of repetitions of a violation will apply:

  Total Penalty (after repetitive violation) = Penalty (after first violation) x m

    Where $m = 1.1^{(n - 1)}$

    and n equals the number of violation incidents with respect to a specific regulation.

If a compliance plan has been agreed between the Royal Commission and a violator, fines for repetitive violations may be suspended until the agreed compliance period has expired. If the compliance plan is successfully implemented within the agreed period, then the repetitive fines may be waived. If the compliance plan is not met within the agreed period, then the suspended repetitive fines may be issued.

3.2   Variable Penalties

Variable penalties apply to violations of environmental emission or discharge standards. The impact of these violations is measurable as a function of emission or discharge flow rate, duration and the degree to which the emission or discharge standard is exceeded.

3.2.1 Violation Classification

The violation classification for variable penalties is:

Class V: Variable

3.2.2 Variable Penalty Fines

The method of calculation of variable penalty fines for violations of water discharge

standards is shown in Appendix B.

The method of calculation of variable penalty fines for violations of air emission standards is shown in Appendix C.

3.3 Compliance Incentive

The total penalty for any violation shall be multiplied by a compliance incentive factor (i) as follows:

$i = 0.75$ if the operator of a facility self-reports the violation and responds proactively and cooperatively to mitigate the impact of the violation

3.4 Maximum Fines

The maximum fine shall not exceed SR. 500,000 for any single violation incident for both fixed and variable penalty. If the facility continues to violate the regulations or standards, Royal Commission will have the authority to repeat the fine on a periodic basis.

3.5 Costs of Remedial Measures

In addition to fines that may be due as a result of violations of the environmental regulations, owners and operators of a facility shall also be responsible for the costs of all necessary remedial measures to mitigate the effects of the violation.

3.6 Non-Payment of Fines

In the event that fines are not paid within the stipulated time period an additional penalty of 5% of the original fine per day, per violation, will be incurred by the facility owner or operator.

Refusal to pay the penalties imposed by the Royal Commission may result in the revocation of the Environmental Permit to Operate.

3.7 Repeated Violations

Repetition of a violation for more than three times (the fourth violation) in one class will automatically lead to transferring it to the following class. Repetition of violations may result in the revocation of the Environmental Permit to Operate.

Table 1
VIOLATIONS CLASSIFICATION FOR ROYAL COMMISSION ENVIRONMENTAL REGULATIONS
RCER-2015, VOLUME I

Reg	Violation Class	Reg	Violation Class	Reg	Violation Class	Reg	Violation Class	Reg	Violation Class	Reg	Violation Class
1.1.1	*	1.5.3	0	2.8.10	1	3.5.2	3	4.1.4	*	4.5.5	2
1.1.2	*	1.5.4	0	2.8.11	1	3.5.3	2	4.1.5	*	4.5.6	2
1.1.3	0	1.5.5	2	2.8.12	2	3.5.4	1	4.1.6	*	4.5.7	1
1.1.4	2	2.1.1	*	2.9.1	2	3.5.5	*	4.2.1	1	5.1.1	*
1.1.5	0	2.1.2	*	2.9.2	*	3.5.6	1	4.2.2	1	5.1.2	1
1.1.6	2	2.1.3	*	2.9.3c	2	3.5.7	1	4.2.3	1	5.1.3	0
1.1.7	*	2.2.1	*	2.9.4c	2	3.6.1	*	4.2.4	1	5.1.4	*
1.1.8	1	2.2.2	0	2.9.5	1	3.6.2	2	4.3.1	0	5.1.5	2
1.1.9	1	2.3.1	3	2.9.6	1	3.6.3	2	4.3.2	2	5.1.6	3
1.1.10	2	2.3.2	3	2.9.7	1	3.6.4	*	4.3.3	2	5.1.7	2
1.1.11	2	2.3.3	3	2.10.1	2	3.6.5	V	4.3.4	2	5.1.8	2
1.1.12	2	2.3.4	3	2.10.2a	1	3.6.6	2	4.3.5	2	5.1.9	3
1.1.13	2	2.3.5	2	2.10.2b	1	3.6.7	2	4.3.6	2	5.1.10	2
1.1.14	1	2.3.6	2	2.10.2c	1	3.6.8	2	4.3.7	3	5.1.11	1
1.1.15	1	2.3.7	2	2.10.2d	2	3.7.1	*	4.3.8	3	5.2.1	2
1.1.16	1	2.3.8	1	2.10.2e	2	3.7.2	2	4.3.9	3	5.2.2	2
1.1.17	1	2.3.9	2	2.10.3	2	3.7.3	*	4.3.10	2	5.2.3	1
1.1.18	1	2.4.1	V	2.10.4	1	3.7.4	2	4.3.11	2	5.2.4	0
1.1.19	1	2.4.2	3	2.10.5	2	3.7.5	V	4.3.12	2	5.2.5	1
1.1.20	3	2.4.3	1	2.10.6	1	3.8.1	3	4.3.13	2	5.2.6	1
1.1.21	*	2.4.4	1	2.10.7a	1	3.8.2	2	4.3.14	2	5.2.7	1
1.1.22	2	2.4.5	*	2.10.7b	1	3.8.3	3	4.3.15	2	5.2.8	1
1.1.23	2	2.4.6	*	2.10.7c	1	3.8.4	3	4.3.16	2	5.2.9	1
1.1.24	*	2.5.1	3	2.10.7d	2	3.8.5	*	4.3.17a	3	5.2.10	1
1.1.25	1	2.5.2	3	2.10.7e	2	3.8.6	1	4.3.17b	3	5.2.11	1
1.1.26	2	2.5.3	1	2.10.8a	1	3.9.1	V	4.3.17c	3	5.2.12	1
1.2.1	3	2.5.4	2	2.10.8b	2	3.9.2	2	4.3.17d	3	5.2.13	1
1.2.2	3	2.5.5	1	2.10.8c	2	3.9.3	2	4.3.17e	2	5.2.14	1
1.2.3	*	2.5.6	2	2.11.1	2	3.9.4	2	4.3.17f	2	5.3.1	2
1.2.4	1	2.5.7	1	3.1.1	*	3.9.5	2	4.3.17g	2	5.3.2	2
1.2.5	*	2.5.8	1	3.1.2	*	3.9.6	2	4.3.17h	2	5.3.3	2
1.2.6	1	2.5.9	2	3.2.1	*	3.9.7	2	4.3.17i	2	5.3.4	2
1.2.7	3	2.5.10	*	3.3.1	3	3.10.1	3	4.3.18	3	5.3.5	1
1.2.8	3	2.6.1	2	3.3.2	3	3.10.2	3	4.3.19	3	5.3.6	1
1.3.1	3	2.6.2	*	3.3.3	3	3.10.3	V	4.3.20	2	5.3.7	1
1.3.2	3	2.6.3	1	3.3.4	1	3.10.4	2	4.3.21	1	5.3.8	1
1.3.3	*	2.6.4	1	3.4.1	3	3.11.1	2	4.3.22	2	5.3.9	2
1.3.4	0	2.6.5	1	3.4.2a	2	3.11.2	3	4.3.23	1	5.3.10	1
1.3.5	0	2.6.6	2	3.4.2b	2	3.11.3	3	4.3.24	0	5.3.11	1
1.3.6	3	2.6.7	1	3.4.3	V	3.11.4	2	4.3.25	1	5.3.12	1
1.3.7	1	2.7.1	3	3.4.4	3	3.11.5	2	4.3.26	1	5.3.13	3
1.3.8	*	2.7.2	3	3.4.5	2	3.12.1	3	4.3.27	1	5.3.14	3
1.3.9	3	2.7.3	3	3.4.6	3	3.12.2	3	4.4.1	3	5.3.15	1
1.3.10	*	2.7.4	*	3.4.7	3	3.12.3	1	4.4.2	3	5.3.16	1
1.3.11	*	2.7.5	1	3.4.8	2	3.12.4	2	4.4.3	1	5.3.17	1
1.3.12	3	2.8.1	2	3.4.9	2	3.12.5	2	4.4.4	3	5.3.18	1
1.3.13	0	2.8.2	1	3.4.10	2	3.13.1	2	4.4.5	2	5.3.19	1
1.4.1	3	2.8.3	1	3.4.11	0	3.13.2	2	4.4.6	1	5.3.20	1
1.4.2	*	2.8.4	2	3.4.12	*	3.13.3	*	4.4.7	1	5.3.21	3
1.4.3	2	2.8.5	2	3.4.13	1	3.13.4	2	4.4.8	1	5.4.1	3
1.4.4	0	2.8.6	2	3.4.14	*	3.13.5	1	4.5.1	*	5.4.2	3
1.4.5	0	2.8.7	2	3.4.15	1	4.1.1	*	4.5.2	0	5.4.3	2
1.5.1	*	2.8.8	1	3.4.16	3	4.1.2	*	4.5.3	2	5.4.4	3
1.5.2	*	2.8.9	1	3.5.1	V	4.1.3	*	4.5.4	2	5.4.5	3

Table 1 (Continued)
VIOLATIONS CLASSIFICATION FOR ROYAL COMMISSION ENVIRONMENTAL REGULATIONS
RCER-2015, VOLUME I

Reg	Violation Class	Reg	Violation Class	Reg	Violation Class	Reg	Violation Class	Reg	Violation Class	Reg	Violation Class
5.4.6	3	6.1.4	3								
5.4.7	3	6.1.5	3								
5.4.8	3	6.1.6	3								
5.4.9	2	6.1.7	V								
5.4.10	2	6.1.8	*								
5.4.11	3	6.1.9	V								
5.4.12	2	6.1.10	2								
5.4.13	2	7.1.1	*								
5.4.14	2	7.2.1	2								
5.4.15	3	7.2.2	2								
5.4.16	3	7.2.3	*								
5.4.17	2	8.1.1	1								
5.4.18	3	8.2.1	2								
5.4.19	3	8.2.2	1								
5.5.1	1	8.2.3	1								
5.5.2	1	8.2.4	1								
5.5.3	1	8.2.5	2								
5.5.4	0	8.2.6	2								
5.5.5	1	8.2.7	3								
5.5.6	1	8.3.1	1								
5.6.1	3	8.3.2	1								
5.6.2	3	8.3.3	1								
5.6.3	1	8.3.4	1								
5.6.4	1										
5.6.5	1										
5.6.6	3										
5.6.7	2										
5.6.8	2										
5.6.9	1										
5.6.10	2										
5.6.11	1										
5.6.12	1										
5.7.1	2										
5.7.2	1										
5.7.3	1										
5.7.4	3										
5.7.5	1										
5.7.6	1										
5.7.7	1										
5.7.8	2										
5.8.1	2										
5.8.2	2										
5.8.3	0										
5.9.1	3										
5.9.2	2										
5.9.3	3										
5.9.4	3										
5.9.5	3										
5.9.6	0										
5.9.7	0										
5.9.8	0										
6.1.1	3										
6.1.2	2										
6.1.3	2										

Key (*) constitutes information for the user. Not a violation;   V = Variable Penalties

4 ADMINISTRATION OF PENALTY SYSTEM

4.1 Notices of Non-Compliance

4.1.1 Issue

The Royal Commission shall issue a Notice of Non-compliance to the operator after discovery of a violation of the Royal Commission Environmental Regulations.

The Notice of Non-compliance must be hand delivered to the individual responsible for the facility operations and signature of receipt obtained.

4.1.2 Contents

Each notice of non-compliance shall be in writing and shall include:

(a)   A reference to each applicable regulation or standard that has been violated;

(b)   A brief statement on the basis of the penalty.

(c)   The amount of the fine owed.

4.1.3 Duties of the Facility Operator

Upon receipt of a Notice of Non-Compliance, the operator of the facility in violation of an environmental regulation shall:

(a)   Immediately take all reasonable measures to minimize the impact of the violation.

(b)   Within a period of ten (10) days the operator of the facility shall provide reasons for each violation and explain the immediate measures taken to minimize the impact of the incident.

(c)   Within a period of twenty (20) days the operator of the facility shall submit a compliance plan and schedule to prevent recurrence of the violation to the Royal Commission for approval.

(d)   Within a period not exceeding thirty (30) days after receiving a Notice of Non-compliance, the operator shall either:

(i)   Pay the fine in full. (Note - payment of the fine does not waive the compliance requirements for the facility).

(ii)   Submit an appeal to the Royal Commission for a reduction, suspension or waiver of the penalty with a detailed justification. Unawareness of the cause or existence of a violation is not acceptable as a reason for waiver or reduction of the penalty.

4.2   Appeal Procedures

The Royal Commission shall evaluate any claim for reduction, suspension or waiver of the penalty submitted in accordance with Section 4.1.3d (ii). The Royal Commission shall be the sole arbiter as to the validity of any appeal for reduction, suspension or waiver of the penalty.   If the Royal Commission rejects the appeal, then the original fine will be reinstated. Payment of any outstanding fines shall be due within 30 days of the Royal Commission appeal decision.

4.2.1   Basis for Reduction, Suspension or Waiver of Penalties

(a)   Reduction of Fine

The Royal Commission may take into account the cost of any capital investment or remedial action required by the agreed compliance plan when finalizing the fine. The Royal Commission may reduce the fine in order not to remove the necessary finances required for meeting the compliance plan. Failure of the operator to make the necessary capital investment or remedial action within the agreed schedule may result in the full fine being reinstated.

(b)   Suspension of Fine

The Royal Commission will suspend fines that continue to accrue during the implementation of an agreed compliance plan. Suspension of the penalties will continue as long as the compliance plan milestones are met. Failure to meet the compliance plan milestones may result in the fine being backdated to the point of implementation of the compliance plan and the issuance of additional fines in accordance with Section 3.1.4 – Fixed Penalty – Repetitive Violations.

(a)   Waiver of Fine

When the operator of a facility has demonstrated to the satisfaction of the Royal Commission that the agreed compliance plan has been successfully implemented, then the Royal Commission will waive the fine that accrued after the implementation of the compliance plan.

4.3   Violation Closure

Within 30 days of receipt of the payment of fines and the compliance plan the Royal Commission shall issue a Violation Closure Certificate.

The Violation Closure Certificate may contain conditions of operation in accordance with the approved compliance plan. These certificates shall form an addendum to the facilities Environmental Operating Permit and, as such, become a condition of continued operation.

4.4   Example Forms

The example forms for the Notice of Non-Compliance (section 4.1) and the Violation Closure Certificate (section 4.3) are provided in Appendix D.

APPENDIX A
FIXED PENALTY FINES

APPENDIX A – FIXED PENALTY FINES

A1.   APPLICABLE VIOLATIONS

Fixed penalty fines are issued by the Royal Commission for violations of Environmental Regulations that are not related to violations of water discharge or air emission standards.

The following categories or types of Regulations are typical of the violations covered under this aspect of the environmental penalty system.

> a) Facility permitting
> b) Air quality (point source/fugitive) emission monitoring regulations
> c) Air emission inventory preparation
> d) Air quality reporting regulations
> e) Water quality monitoring regulations
> f)   Water quality reporting regulations
> g) Hazardous materials management regulations
> h) Hazardous materials reporting regulations
> i)   Waste management regulations
> j)   Waste transportation regulations
> k) Noise monitoring and reporting regulations
> l)   Facility compliance reporting regulations
> m) Incident compliance reporting regulations
> n) Facility record keeping regulations

A2.   FIXED FINE SCALES

Fixed fines may be issued for each violation of a regulation subject to the fixed penalty system. The magnitude of fixed penalty fines depends upon the violation classification determined according to Section 3.1. The table below indicates the fixed penalty fine scales for these violations:

	SUBCLASS[*]			
CLASS	A	B	C	D
0	SR 0	SR 0	SR 0	SR 0
1	SR 5000	SR 10000	SR 15000	SR 20000
2	SR 25000	SR 40000	SR 60000	SR 80000
3	SR 100000	SR 150000	SR 200000	SR 250000

A3.   EXAMPLE CALCULATIONS

Example 1

A facility in the industrial city has performed their annual air pollution source monitoring when only operating at 60% of normal capacity and without providing notification to the Royal Commission in advance.

Additional data required:

1. Violation of Regulation 2.5.6: All emission monitoring tests shall be conducted ... under conditions of maximum intended use of the facility. Operations during start-up; shutdowns and malfunctions shall not constitute representative conditions.
2. Violation of Regulation 2.5.7: Failure to provide notice of performance testing to the Royal Commission

Calculation:

Penalty class for 2.5.6	1A	SR	5000
Penalty class for 2.5.7	1A	SR	5000
		Total penalty	SR 10,000

Example 2

A facility in the industrial city has a series of six (6) day tanks for the storage of VOC product prior to transfer to the port for off-loading. The tanks all have capacities greater than 75m^3 but are not equipped with VOC emission control devices

Additional data required:

1. Violation of Regulation 2.9.1 " ..... shall not place, store, or hold in any stationary tank, reservoir or any other container, any VOC unless such container is equipped with a control device as specified in Table 2F". This regulation is applicable only to tanks with capacities greater than 75m^3

Calculation:

Penalty class for violation of regulation 2.9.1:	2
Impact weighting because of number of tanks in violation	B
Total Penalty for Class 2B violation	SR 40,000

Example 3

The owner/operator of an existing petrochemical facility in the industrial city with a capacity of 75,000 t/y increases annual capacity to 85,000 t/y. The facility did not apply and obtain EOP before alteration as only limited process changes were involved with the upgrade. The facility performs the necessary tie-ins; start-up activities and enters production.

The facility has also consistently exceeded the TOC wastewater discharge standard. Agreement was reached with the Royal Commission to waive the TOC variable penalty of SR 52,000 based on facility commitment to amend the process during the next scheduled major shutdown. The necessary amendments were not completed. Reporting of wastewater data indicates the facility remains out of compliance with the Royal Commission standards. A second fine of SR. 24,500 is calculated for the non-compliance event occurring after the compliance schedule deadline.

Additional data required:

1. Violation of Regulation 1.3.3: Modification to increase capacity greater than 10% without prior obtaining amended EOP.
2. Violation of Regulation 3.4.1 : Wastewater pretreatment standards for TOC.

Calculation:

Penalty class for violation of Regulation 1.3.3:   3A   SR 100,000
Penalty class for violation of Regulation 3.4.1:   V   SR   52,000 + SR 24,500
                                        Total Penalty =SR 176,500

Example 4

A facility in the industrial city failed to provide the required monthly industrial wastewater quality self-monitoring report. This was the third month in a row that the report was not submitted.

Additional data required:

Violation of Regulation 3.4.11

Calculation:

Penalty class for violation of Regulation 3.4.11 :   1A   SR 5,000
Repetitive Violation Factor $m = 1.1^{(3-1)}$ =1.21
                                        Total Fine   =1.21 x 5000
                                                                            = SR 6050

APPENDIX B
VARIABLE WATER PENALTY FINES

APPENDIX B - VARIABLE WATER PENALTY FINES

B1.   APPLICABLE VIOLATIONS

This penalty system is to be used by the Royal Commission in enforcement actions involving violations of point source discharge standards specified in the Royal Commission Environmental Regulations.   The point source discharges and other categories of wastewater discharges covered under this water penalty scheme include:

- Discharges to coastal water
- Discharges to seawater cooling canals
- Discharges to industrial wastewater treatment facilities
- Ballast water discharges
- Irrigation water supply
- Potable water supply
- Groundwater

B2.   BASIS FOR FINES

The Royal Commission regularly monitors all direct discharges to receiving waters and to the industrial and sanitary wastewater treatment plants from industrial facilities. Only Royal Commission Monitoring Program data will be considered for this penalty scheme. Data provided by the facilities in their own self monitoring reports for direct discharges will not be used as a basis for determining a fine.   All the analyses will be performed according to the appropriate standard test methods and procedures. In case of any dispute over the analytical results the Royal Commission will conduct, if necessary, a second analysis from the preserved sample which is under dispute. This analysis will be completed at a Royal Commission laboratory within 6 weeks of the first analysis and in the presence of an authorized representative(s) from the relevant facility. The result of this second analysis will be final in assessing the violation and applicable penalty.

The operators of facilities with discharges in violation of the relevant environmental standards will be subject to a fine, which will continue to accrue until the time that the discharge is back in compliance. It is the responsibility of the industries to inform the Royal Commission about the return to compliance and the Royal Commission will verify the claim.

B3.   DETERMINATION OF THE AMOUNT OF THE PENALTY FINES

B.3.1 Point Source Discharge Violations

B.3.1.1 For all violations relating to fixed point source discharges the following formula will apply to calculate the total fine:

$$T = P + F\sum_0^i \left(C_i H_i \frac{(R_i - L_i)}{L_i} \right)$$

Where:

T =   Total fine (Saudi Riyals)
P =   Minimum Fine (SR 5,000)
F =   Flowrate (m^3/h) determined in order of preference by:
    1) Mean flowrate measured at time of non-compliant discharge.
    2) Single flowrate measured at time of non-compliant discharge.
    3) Average annual discharge flowrate for source.
    4) Design discharge for source.
    5) Calculated discharge flowrate for specific pipe diameter.
C_i =   Cost factor for each non-compliant parameter (i)
H_i =   The lesser of either:
    1) The number of hours between first and last non-compliant sample for each parameter (i); or
    2) The number of hours between the first non-compliant sample for each parameter (i) and the implementation of an agreed compliance plan
    If there is only one non-compliant result H_i = 1
R_i =   Time weighted average of non-compliant test results for each parameter (i)
L_i =   Limit value for each non-compliant parameter (i)

Note: For acidic pH violations the $(R_i - L_i)/L_i$ term in the penalty formula should be replaced by $(L_l - R_i)/L_i$

B3.1.2 For violations of the maximum standards for pretreated industrial wastewater discharge to common treatment plant, treated wastewater discharge to the sea and variance stream discharges:

C_i =   4.5 for all major pollutants as specified in Tables B5 and B7
C_i =   3.0 for all minor pollutants as specified in Tables B6 and B8

B3.1.3 For violations of the maximum standards for seawater cooling discharges:

C_i =   0.018 for all major pollutants as specified in Table B5
C_i =   0.012 for all minor pollutants as specified in Table B6

B3.1.4 In the case of monthly average limits being exceeded for discharges to the Red Sea at Yanbu and the seawater canal at Jubail (see Tables B5 and B6), the following formula shall apply:

$$T = P + F_m \sum_0^i \left(C_i M_i \frac{(R_i - L_i)}{L_i} \right)$$

Where:

$C_i =$ As defined in B3.1.5
$F_m =$ The total flowrate for the month (m^3).
$M_i =$ The lesser of either:
     1) The number of months between first and last non-compliant sample for each parameter (i); or
     2) The number of months between the first non-compliant sample for each parameter (i) and the implementation of an agreed compliance plan
     If there is only one non-compliant result $M_i = 1$

Note: For acidic pH violations the $(R_i - L_i)/L_i$ term in the penalty formula should be replaced by $(L_I - R_i)/L_i$

B3.1.5 For violations of the monthly average standards for seawater cooling discharges:

$C_i =$ 0.002 for all major pollutants (cooling water discharges) as specified in Table B5
$C_i =$ 0.001 for all minor pollutants (cooling water discharges) as specified in Table B6
$C_i =$ 1.5 for all major pollutants (treated wastewater discharges to the sea) as specified in Table B5
$C_i =$ 1.0 for all minor pollutants (treated wastewater discharges to the sea) as specified in Table B6

B3.2   Ballast Water Discharge Violations

B3.2.1 All ballast water discharges either from vessels or, in the case of Yanbu, from the treatment plant final pond will subject to monitoring and comparison with the ballast water discharge standards in Table B9.

B3.2.2 All violations of the discharge parameters in Table B9 will incur penalties according to the following formula:

$$B = 1.5V \sum_0^i \left((R_i - L_i)/L_i \right)$$

Where

$B =$ Ballast water penalty (Saudi Riyals).
$V =$ Volume of ballast water discharged (m^3).
$R_i =$ Mean result of non-compliant tests for each parameter (i).
$L_i =$ Limit value for each non-compliant parameter (i).

B3.3   Irrigation Water Standard Violations

All violations to irrigation water standards (Tables B10 and B11) will incur penalties according to the following formula:

$$T = P + Qd\sum_{0}^{i}\left(C_i D_i \frac{(R_i - L_i)}{L_i} \right)$$

Where :

T = Total fine (Saudi Riyals)
P = Minimum Fine (SR 5,000)
Qd= Quantity of Irrigation water discharged in Cubic meters per day
C_i = Cost factor for each non-compliant parameter (i)
D_i = The lesser of either:
    1) The number of days between first and last non-compliant sample for each parameter (i); or

    2) The number of days between the first non-compliant sample for each parameter (i) and the implementation of an agreed compliance plan

    If there is only one non-compliant result $D_i = 1$
R_i = Time weighted average of non-compliant test results for each parameter (i)
L_i = Limit value for each non-compliant parameter (i) as per Tables B10 and B11

B3.3.1 For acidic pH and minimum value violations the $(R_i - L_i)/L_i$ term in the penalty formula should be replaced by $(L_I - R_i)/L_i$. If limit value of a parameter is "Nil" , replace the whole term by "1" for "MAJOR pollutants and by "0.5" for "MINOR" pollutants.

B3.3.2 For violations of the maximum allowable value of "MAJOR" pollutants (Table B10), the following values of cost factor will be used :

C_i =0.025 for all "Physical" parameters as specified in Table B10
C_i =0.05 for all "Chemical"   parameters as specified in Table B10
C_i =0.1 for all "Bacteriological and Parasitological" parameters as specified in Table B10

B3.3.3 For violations of the maximum allowable value of "MINOR" pollutants (Table B11), the following values of cost factor will be used :

C_i =0.0125 for all "Physical" parameters as specified in Table B11
C_i =0.025   for all "Chemical"   parameters as specified in Table B11

B3.4 Drinking Water Standard Violations

All violations to potable water standards (Tables B12 and B13) will incur penalties according to the following formula:

$$T = P + Qd\sum_{0}^{i}\left(C_i D_i \frac{(R_i - L_i)}{L_i} \right)$$

Where:

T = Total fine (Saudi Riyals)
P = Minimum Fine (SR 5,000)
Qd= The quantity of potable water that has been affected daily by non-compliance
C_i = Cost factor for each non-compliant parameter (i)
D_i = The lesser of either:
    1) The number of days between first and last non-compliant sample for each parameter (i); or
    2) The number of days between the first non-compliant sample for each parameter (i) and the implementation of an agreed compliance plan
    If there is only one non-compliant result D_i = 1
R_i = Time weighted average of non-compliant test results for each parameter (i)
L_i = Limit value for each non-compliant parameter (i) as per Tables B12 and B13

B3.4.1 For acidic pH and minimum value violations the $(R_i - L_i)/L_i$ term in the penalty formula should be replaced by $(L_l - R_i)/L_i$. For the violation of "Taste and Odour" and "CO_2 ", replace $(R_i - L_i)/L_i$ term by "1" and "0.5" numbers respectively. In cases of bacteriological Parameters having limit value to "zero", replace the $(R_i - L_i)/L_i$ term by a number of "2".

B3.4.2 For violations of the maximum allowable value of "MAJOR" pollutants (Table B12), the following values of cost factor will be used:

C_i =0.01 for all "Physical" and " Alkalinity" parameters as specified in Table B12
C_i =0.02 for all "Inorganic" and "Organic" parameters as specified in Table B12
C_i =0.04 for all "Bacteriological " parameters as specified in Table B12

B3.4.3 For violations of the maximum allowable value of "MINOR" pollutants (Table B13), the following values of cost factor will be used:

C_i =0.005 for all "Alkalinity" parameters as specified in Table B13
C_i =0.01   for all "Inorganic" parameters as specified in Table B13

B4   EXAMPLE CALCULATIONS

Example 1

A facility in Jubail has been discharging 100 m^3/h of a non-compliant effluent to the IWTP for the following period:

Time of Sampling	Analysis - Ammonia mg/l	Analysis - TSS mg/l
0800	980	2800
1200	250	compliant
1400	Compliant	compliant

The facility has recognized the problem and been cooperative in taking remedial action.

Additional data required:

Ammonia limit is 120 mg/l
TSS limit is 2000 mg/l
Ammonia is a major pollutant (C = 4.5)
TSS is a minor pollutant (C = 3)

Calculation:

For ammonia R =   (980 + 250) / 2 = 615 mg/l
                         H =   1200h - 0800h = 4
For TSS   R =   2800 mg/l
                         H =   1 (only one non-compliant result)

Penalty Formula:

$$T = P + F \sum_{0}^{i} \left(C_i H_i \frac{(R_i - L_i)}{L_i} \right)$$

For example 1:   T = 5000 + [100 x ((4.5 x 4 x (615-120)/120) + (3 x 1 x (2800-2000)/2000))]

                                T = 12545

Compliance Incentive Adjustment:

The compliance incentive factor of 0.75 is applied to the fine because the facility demonstrates a cooperative attitude resulting in the minimization of the pollution incident (see Section 3.3). The final penalty is

Final penalty   T x 0.75 = SR 9408

Example 2

A facility in Yanbu has been discharging 40000 m^3/h of contaminated cooling water to the Red Sea as follows:

Time of Sampling	Analysis - Oil & Grease mg/l
0900	100
1500	115
1800	85
0700 next day	65
0900 next day	compliant

Additional data required:

Oil & Grease limit is 10 mg/l
For seawater cooling discharges oil & grease is a major pollutant (C = 0.018)

Calculation:

For oil & grease the time weighted average non-compliant concentration R is

$$R = \frac{\left(\frac{115+100}{2}\right)x\,6h + \left(\frac{115+85}{2}\right)x3h + \left(\frac{85+65}{2}\right)x13h}{22h}$$

R = 87.3 mg/l

H = 0700 (day 2) - 0900 (day 1) = 22h

Penalty Formula:

$$T = P + F\sum_{0}^{i}\left(C_iH_i\frac{(R_i - L_i)}{L_i}\right)$$

T = 5000 + 40000 [0.018 x 22 x (87.3-10)/10]

T = 127443

Final penalty   SR 127443

Example 3

In Yanbu a ship has discharged 4000 m^3 of contaminated ballast water with an analysis as follows:

Oil & Grease   42 mg/l
TOC   200 mg/l
Suspended solids   95 mg/l

Additional information required:

Oil & Grease limit   = 10 mg/l
TOC   = 150 mg/l
Suspended solids limit = 35 mg/l

Penalty formula

$$B = 1.5V\sum_{0}^{i}\left((R_i - L_i)/L_i\right)$$

Calculation:

B = 1.5 x 4000 x [(42-10)/10 + (200-150)/150 + (95-35)/35)]

B = SR. 31,486

Adjustment: No adjustment factors are considered necessary.

Example 4

A Jubail facility has informed the Royal Commission that it has discharged an acidic wastewater to the IWTP at an unknown flow rate. The analytical results are as follows:

Time of Sampling	Analysis - pH
1000	1.8
1100	2.5
1200	4
1400	4.5
1600	compliant

Additional data required:

The records indicate the average annual flow for the discharge is 240 m^3/h.
pH < 5 is major pollutant (C = 4.5)

Calculation:

Time weighted average pH <5 is:

$$R = -\log_{10}\left[\frac{\left(\dfrac{10^{-2.5}+10^{-1.8}}{2}\right)+\left(\dfrac{10^{-4}+10^{-2.5}}{2}\right)+\left(\dfrac{10^{-4.5}+10^{-4}}{2}\right)\text{x2h}}{4h} \right]$$

R = 2.55
H = 4

Penalty Formula for Acidic Conditions:

$$T = P + F\sum_{0}^{i}\left(C_i H_i \frac{(R_i - L_i)}{L_i}\right)$$

Calculation   T = 5000 + 240 x [(4.5 x 4 x (5 - 2.55)/5]

          T = 7117

Compliance Incentive Adjustment:

A compliance incentive factor of 0.75 is applied to the fine because the facility self-reported the incident and demonstrated a co-operative attitude resulting in the minimization of the pollution incident (see Section 3.3). The final penalty is

Final penalty   T x 0.75 = SR. 5338

Example 5

A facility in Yanbu has been discharging 50,000 m^3/h of non-contact cooling water to the Red Sea. The parameter of sulfide has been found to exceed the monthly average limit for one month period. The facility has discharged a monthly average value of sulfide of 0.09 mg/l

Additional Data Required

Sulfide monthly average limit is 0.05 mg/l
Sulfide is a major pollutant (C_l = 0.002)

Calculation

For sulfide   R = 0.09   L = 0.05
                          M = 1
Total flowrate F_m = 50,000 x 24 x 30 = 36 x 10^6 m^3

Penalty Formula

$$T = P + F_m \sum_0^i \left(C_i M_i \frac{(R_i - L_i)}{L_i} \right)$$

T = 5000+36x10^6 x 0.002 x 1 x (0.09-0.05) / 0.05

T = 62,600

Adjustment: No adjustment factors are considered necessary.

Final Penalty   SR. 62,600

Example 6

A facility in Yanbu has been discharging 130m^3/h of treated wastewater to the Red Sea. The monthly average iron concentration in the water was found to be 7mg/l for a period of one month.

Additional Data Required

Direct discharge standard (monthly average) for iron 5 mg/l
Iron is a minor pollutant (C_i= 1.0)

Calculation

For sulfide   R = 7.0   L = 5.0
                            M = 1
Total flowrate F_m = 130 x 24 x 30 = 93600 m^3

Penalty Formula

$$T = P + F_m \sum_{0}^{i} \left(C_i M_i \frac{(R_i - L_i)}{L_i} \right)$$

T = 5000+93600 x 1 x 1 x (7.0 - 5.0) / 5.0

T = 42,440

Adjustment   No adjustment factors are considered necessary

Final Penalty   SR 42,440

Example 7

In Jubail , the following parameters in the irrigation water (100000 cu.m/day) were found to be of non-compliant for a period of 5 days.

Total Dissolved Solids (TDS) = 2500 mg/l
Oil and Grease (O&G)   = 10 mg/l
Nickel   (Ni)   = 0.05 mg/l
Aluminium (Al)   = 9 mg/l

Additional Data Required

Standard Values of MAJOR pollutants TDS = 2000 mg/l, O&G=Nil, Ni=0.02 mg/l (Table B10) and C_i= 0.025 for physical parameter and C_i= 0.05 for chemical parameter

Standard Values of MINOR pollutant Al = 5 mg/l (Table B11) and C_i= 0.025 for chemical parameter

Calculation

For TSS   R = 2500   L = 2000
               D = 5 days C_i= 0.025

For O&G   R = 10   L = Nil
               D = 5 days C_i= 0.05

For Ni   R = 0.05   L =0.02
               D = 5 days C_i= 0.05

For Al   R = 9   L = 5
               D = 5 days C_i= 0.025

Qd = 100000 cu.m./day

Penalty Formula

$$T = P + Qd \sum_{0}^{i} \left(C_i D_i \frac{(R_i - L_i)}{L_i} \right)$$

T = 5000+100000[{ 0.025 x 5 x (2500 - 2000) / 2000} + (0.05x5x1)
      + {0.05x5x(0.05-0.02)/ 0.02} + {0.025x5x(9-5)/ 5}]

T = SR 80625

Adjustment   No adjustment factors are considered necessary
Final Penalty   SR 80625

Example 8

In Yanbu , the following parameters in the Potable water (40,000 cu.m/day) were found to be of non-compliant for a period of 5 days.

$$
\begin{array}{lll}
\text{Taste and Odor (T\&O)} & = & \text{Objectionable} \\
\text{Cadmium (Cd)} & = & 0.005 \text{ mg/l} \\
\text{E-Coli Bacteria} & = & 3 \text{ per 100ml} \\
\text{Calcium (Ca)} & = & 20 \text{ mg/l}
\end{array}
$$

Additional Data Required

Standard Values of MAJOR pollutants (Table B12) T&O= Unobjectionable , Cd=0.003mg/l and E-Coli =0, and C_i= 0.01 for physical parameter , C_i= 0.02 for inorganic and organic parameter and C_i= 0.04 for bacteriological parameter

Standard Values of MINOR pollutant (Table B13) Ca = 30 mg/l and C_i= 0.01 for inorganic parameter

Calculation

For T&O   Replace the $(R_i-L_i)/L_i$ term by 1
           D = 5 days C_i= 0.01

For Cd   R = 0.005   L = 0.003
        D = 5 days C_i= 0.02

For E-Coli   Replace the $(R_i-L_i)/L_i$ term by 2
        D = 5 days C_i= 0.04

For Ca   R = 20   L = 30
        D = 5 days C_i= 0.01

Penalty Formula

$$
T = P + Qd\sum_0^i \left(C_i D_i \frac{(R_i - L_i)}{L_i} \right)
$$

T = 5000+40000[(0.01 x 5 x 1)+ {0.02x5x(0.005-0.003)/0.003} + (0.04x5x2)+ {0.01x5x(30-20)/30}]

T = SR 26333

Adjustment   No adjustment factors are considered necessary

Final Penalty   SR 26333

Important Note: Since potable water contains E-Coli, it makes water unsuitable for human consumption. This situation poses an imminent risk to public heath. In such cases, after first non-compliant the RC will issue an emergency order that requires the operator of the facility to take the steps necessary to protect public health and return the system to compliance.

B5.   TYPICAL VARIABLE WATER PENALTY SCALES

In Tables B1-B4, typical scales are presented as examples to show the penalty, which would be charged against non-compliances of industrial wastewater, seawater cooling, irrigation and drinking water standards. Penalties are estimated using formulae given in Section B3 to cover several hypothetical non- compliances situations in which the pollutant concentrations in the streams (with various flow rates) are increased several fold against their standard values during different time periods.

TABLE B1
INDUSTRIAL WASTE WATER NON-COMPLIANCES
EXAMPLES OF TYPICAL VARIABLE PENALTY

MINOR POLLUTANTS (C=3 L=1)							
C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l							

F Flow Rate M³/ Hour	50	100	100	100	200	200	400	400
R Observed Value of a Pollutant mg/ l	2 100 % Increase	1.5 50 % Increase	2 100 % Increase	4 300 % Increase	1.5 50 % Increase	2 100 % Increase	1.5 50 % Increase	2 100 % Increase
H Hours of Non-Compliance	T, Total Variable Fine, SR							
1	5150	5150	5300	5900	5300	5600	5600	6200
4	5600	5600	6200	8600	6200	7400	7400	9800
8	6200	6200	7400	12200	7400	9800	9800	14600
12	6800	6800	8600	15800	8600	12200	12200	19400
24	8600	8600	12200	26600	12200	19400	19400	33800
72	15800	15800	26600	69800	26600	48200	48200	91400

MAJOR POLLUTANTS (C=4.5 L=1)							
C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l							

F Flow Rate M³/ Hour	50	100	100	100	200	200	400	400
R Observed Value of a Pollutant mg/ l	2 100 % Increase	1.5 50 % Increase	2 100 % Increase	4 300 % Increase	1.5 50 % Increase	2 100 % Increase	1.5 50 % Increase	2 100 % Increase
H Hours of Non-Compliance	T, Total Variable Fine, SR							
1	5225	5225	5450	6350	5450	5900	5900	6800
4	5900	5900	6800	10400	6800	8600	8600	12200
8	6800	6800	8600	15800	8600	12200	12200	19400
12	7700	7700	10400	21200	10400	15800	15800	26600
24	10400	10400	15800	37400	15800	26600	26600	48200
72	21200	21200	37400	102200	37400	69800	69800	134600

TABLE B2
SEAWATER COOLING WATER NON-COMPLIANCES
EXAMPLES OF TYPICAL VARIABLE PENALTY

MINOR POLLUTANTS (C=0.012 L=1)							
C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l							
F Flow Rate M³/ Hour	20000	50000	50000	100000	100000	100000	200000	200000
R Observed Value of a Pollutant mg/ l	1.5 — 50 % Increase	1.2 — 20 % Increase	1.5 — 50 % Increase	1.2 — 20 % Increase	1.5 — 50 % Increase	2 — 100 % Increase	1.2 — 20 % Increase	1.5 — 50 % Increase
H Hours of Non-Compliance	T, Total Variable Fine, SR							
1	5120	5120	5300	5240	5600	6200	5480	6200
4	5480	5480	6200	5960	7400	9800	6920	9800
8	5960	5960	7400	6920	9800	14600	8840	14600
12	6440	6440	8600	7880	12200	19400	10760	19400
24	7880	7880	12200	10760	19400	33800	16520	33800
72	13640	13640	26600	22280	48200	91400	39560	91400

MAJOR POLLUTANTS (C=0.018 L=1)							
C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l							
F Flow Rate M³/ Hour	20000	50000	50000	100000	100000	100000	200000	200000
R Observed Value of a Pollutant mg/ l	1.5 — 50 % Increase	1.2 — 20 % Increase	1.5 — 50 % Increase	1.2 — 20 % Increase	1.5 — 50 % Increase	2 — 100 % Increase	1.2 — 20 % Increase	1.5 — 50 % Increase
H Hours of Non-Compliance	T, Total Variable Fine, SR							
1	5180	5180	5450	5360	5900	6800	5720	6800
4	5720	5720	6800	6440	8600	12200	7880	12200
8	6440	6440	8600	7880	12200	19400	10760	19400
12	7160	7160	10400	9320	15800	26600	13640	26600
24	9320	9320	15800	13640	26600	48200	22280	48200
72	17960	17960	37400	30920	69800	134600	56840	134600

TABLE B3
IRRIGATION WATER NON-COMPLIANCES
EXAMPLES OF TYPICAL VARIABLE PENALTY

MINOR POLLUTANTS- CHEMICAL PARAMETER (C=0.025, L=1) C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l								
Qd Flow Rate, M^3/day	100000	100000	100000	100000	100000	100000	100000	100000
R Observed Value of a Pollutant mg/ l	1.25	1.5	1.75	2	2.5	3	4	5
	25 % Increase	50 % Increase	75 % Increase	100 % Increase	150 % Increase	200 % Increase	300 % Increase	400 % Increase
D Days of Non-Compliance	T, Total Variable Fine, SR							
1	5625	6250	6875	7500	8750	10000	12500	15000
3	6875	8750	10625	12500	16250	20000	27500	35000
5	8125	11250	14375	17500	23750	30000	42500	55000
7	9375	13750	18125	22500	31250	40000	57500	75000
10	11250	17500	23750	30000	42500	55000	80000	105000

MAJOR POLLUTANTS- CHEMICAL PARAMETER (C=0.05, L=1) C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l								
Qd Flow Rate, M^3/day	100000	100000	100000	100000	100000	100000	100000	100000
R Observed Value of a Pollutant mg/ l	1.25	1.5	1.75	2	2.5	3	4	5
	25 % Increase	50 % Increase	75 % Increase	100 % Increase	150 % Increase	200 % Increase	300 % Increase	400 % Increase
D Days of Non-Compliance	T, Total Variable Fine, SR							
1	6250	7500	8750	10000	12500	15000	20000	25000
3	8750	12500	16250	20000	27500	35000	50000	65000
5	11250	17500	23750	30000	42500	55000	80000	105000
7	13750	22500	31250	40000	57500	75000	110000	145000
10	17500	30000	42500	55000	80000	105000	155000	205000

TABLE B4
DRINKING WATER NON-COMPLIANCES
EXAMPLES OF TYPICAL VARIABLE PENALTY

MINOR POLLUTANTS-INORGANIC PARAMETER (C=0.01, L=1) C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l								
Qd Flow Rate, M^3/day	100000	100000	100000	100000	100000	100000	100000	100000
R Observed Value of a Pollutant mg/ l	1.25 25 % Increase	1.5 50 % Increase	1.75 75 % Increase	2 100 % Increase	2.5 150 % Increase	3 200 % Increase	4 300 % Increase	5 400 % Increase
D Days of Non-Compliance	T, Total Variable Fine, SR							
1	5250	5500	5750	6000	6500	7000	8000	9000
3	5750	6500	7250	8000	9500	11000	14000	17000
5	6250	7500	8750	10000	12500	15000	20000	25000
7	6750	8500	10250	12000	15500	19000	26000	33000
10	7500	10000	12500	15000	20000	25000	35000	45000
15	8750	12500	16250	20000	27500	35000	50000	65000
MAJOR POLLUTANTS-BACTERIOLOGICAL PARAMETER (C=0.04, L=1) C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l								
Qd Flow Rate, M^3/day	100000	100000	100000	100000	100000	100000	100000	100000
R Observed Value of a Pollutant mg/ l	1.25 25 % Increase	1.5 50 % Increase	1.75 75 % Increase	2 100 % Increase	2.5 150 % Increase	3 200 % Increase	4 300 % Increase	5 400 % Increase
D Days of Non-Compliance	T, Total Variable Fine, SR							
1	6000	7000	8000	9000	11000	13000	17000	21000
3	8000	11000	14000	17000	23000	29000	41000	53000
5	10000	15000	20000	25000	35000	45000	65000	85000
7	12000	19000	26000	33000	47000	61000	89000	117000
10	25000	45000	65000	85000	125000	165000	245000	325000
15	35000	65000	95000	125000	185000	245000	365000	485000

TABLE B 5
**WATER QUALITY STANDARDS FOR DIRECT DISCHARGE TO COASTAL WATERS
(INCLUDING TREATED EFFLUENT, DISCHARGE TO THE SEAWATER COOLING
RETURN CANAL, VARIANCE STREAMS AND SURFACE DRAINAGE DITCHES)
"MAJOR" POLLUTANTS**

PARAMETERS	UNIT	LIMITS	
		MAXIMUM	MONTHLY AVERAGE
BOD (5 day)	mg/l	25	15
Ammonia Total (as N)	mg/l	3	1
Arsenic	mg/l	0.5	0.1
Barium	mg/l	2	1
Cadmium	mg/l	0.05	0.01
Chlorine-Residual (total)	mg/l	0.3	0.2
Chromium (total)	mg/l	0.5	0.1
Chromium (Hexavalent)	mg/l	0.1	0.05
Cobalt	mg/l	2	0.1
Copper	mg/l	0.5	0.2
Cyanide	mg/l	0.1	0.05
Lead	mg/l	0.5	0.1
Manganese	mg/l	1	0.2
Molybdenum	mg/l	0.01	-
Mercury	mg/l	0.005	0.001
Nickel	mg/l	0.5	0.2
Nitrate	mg/l	10	1
Oil and Grease	mg/l	15	8
Oxygen Dissolved[a]	mg/l	2	5
PH[b]	pH Units	6-9	6-9
Phenols	mg/l	1	0.1
Phosphorous, Total (as P)	mg/l	2	1
Selenium	mg/l	0.02	-
Sulfide	mg/l	0.1	0.05
COD	mg/l	150	75
Total Chlorinated Hydrocarbons	mg/l	0.5	0.1
Total Suspended Solids	mg/l	40	25
Vanadium	mg/l	0.1	-
Polycyclic Aromatic Hydrocarbons (PAH)	mg/l	0.01	-
FOR YANBU ONLY			
Temperature	Δ ^{0}C	Case by case[c]	Case by case[c]
Total Coliforms	MPN/100 ml	2400	1000
Total Organic Carbon (TOC)	mg/l	75	-
Turbidity	N.T.U	15	8

Note: a.   Dissolved oxygen requirement is a minimum concentration requirement.
       b.   Inclusive range not to be exceeded.   C. As per individual permit, calculated on a case by case basis

TABLE B 6
WATER QUALITY STANDARDS FOR DIRECT DISCHARGE TO THE COASTAL WATERS (INCLUDING TREATED EFFLUENT, DISCHARGE TO THE SEAWATER COOLING RETURN CANAL, VARIANCE STREAMS AND SURFACE DRAINAGE DITCHES) "MINOR" POLLUTANTS

PARAMETERS	UNIT	LIMITS	
		MAXIMUM	MONTHLY AVERAGE
Aluminum	mg/l	25	15
Floating Particles	mg/m^2	Nil	Nil
Fluoride	mg/l	25	15
Iron	mg/l	10	5
Salinity	Δ ppt	2	1
Total Kjeldahl Nitrogen (TKN)	mg/l	10	5
Zinc	mg/l	5	2
FOR JUBAIL ONLY			
Total Coliforms	MPN/100 ml	2400	1000
Temperature[a]	Δ ^{o}C	10	10
Total Organic Carbon	mg/l	75	-
Turbidity[b]	N.T.U	75	50

Note:

a. Temperature equals the difference across non-contact cooling water intake and discharge.
b. Differential standard between seawater cooling intake and seawater cooling discharge for non-contact cooling water, absolute standard for all other discharges.

TABLE B 7
STANDARDS FOR PRETREATED DISCHARGE TO CENTRAL WASTEWATER TREATMENT FACILITY "MAJOR" POLLUTANTS

PARAMETER	UNIT	JUBAIL MAXIMUM LIMIT	YANBU MAXIMUM 24H AVERAGE
Arsenic	mg/l	1.25	1
Barium	mg/l	2.0	2
Boron[a,b]	mg/l	2.5	2.5
Cadmium	mg/l	0.5	0.5
Chloride	mg/l	1000	-
Chromium - Total	mg/l	5.0	3
Chromium - Hexavalent	mg/l	0.25	1
Cobalt	mg/l	2.0	2
Copper	mg/l	1.2	1
Cyanide	mg/l	3.5	1
Lead	mg/l	0.5	0.5
Manganese	mg/l	2.0	1
Molybdenum	mg/l	0.01	-
Mercury	mg/l	0.015	0.01
Nickel	mg/l	2.5	0.25
Oil & Grease	mg/l	120	100
pH[c]	pH units	5-11	5-9
Phenols	mg/l	150	25
Selenium	mg/l	0.02	-
Sulfide	mg/l	6.0	10
Total Dissolved Solids	mg/l	2000	2500
TOC	mg/l	800	400
COD	mg/l	-	1500
Silver	mg/l	0.25	0.25
Total Chlorinated Hydrocarbons	mg/l	0.5	0.5
Vanadium	mg/l	0.1	-
FOR JUBAIL ONLY			
Ammonia, Total (as N)[a,b]	mg/l	120	
Zinc	mg/l	10	
FOR YANBU ONLY			
BOD	mg/l		800
Total Suspended Solids (TSS)	mg/l		500

Note:
a. Parameters which will change if wastewater, after treatment, is not used for irrigation.
b. A well-drained sandy soil is assumed for irrigation water receiving areas that will not be used for forage.
c. pH is a "major" pollutant when pH < = 5

TABLE B 8
**STANDARDS FOR PRETREATED DISCHARGE   TO CENTRAL WASTEWATER TREATMENT
FACILITY "MINOR" POLLUTANTS**

PARAMETER	UNIT	JUBAIL MAXIMUM LIMIT	YANBU MAXIMUM 24H AVERAGE
Aluminum	mg/l	30	30
Iron	mg/l	25	4
pH [b]	pH units	5-11	5-9
Sulphates	mg/l	800	150
Temperature	°C	60	50
Fluoride	mg/l	30	25
Phosphorus, Total (as P)	mg/l	50	2
Sodium Adsorption Ratio [a,c]	SAR units	20	20
Sodium	mg/l	1000	600
FOR JUBAIL ONLY			
Total Suspended Solids (TSS)	mg/l	2000	
FOR YANBU ONLY			
Ammonia, Total as N[(a,c)]	mg/l		40
Chloride	mg/l		400
Zinc	mg/l		1.5

Notes:

a. A well - drained sandy soil is assumed for irrigation water receiving areas, which will not be used for forage.
b. pH is a minor pollutant when pH > = 11.
c. Parameters, which will change if wastewater, after treatment, is not used for irrigation.

TABLE B 9
BALLAST WATER DISCHARGE STANDARDS

PARAMETER	UNITS	MAXIMUM ALLOWABLE	AVERAGE OF ALL SAMPLES[a]
Ammonia, Total (as N)	mg/l	3.0	1.5
pH	pH units[b]	6 – 9	6 - 9
Suspended Solids	mg/l	35	20
Total Oil & Grease[c]	mg/l	10	8.0
Total Organic Carbon	mg/l	150	100

Note:

    a. At least three (3) samples shall be taken for each discharge event

    b. Inclusive range not to be exceeded

    c. Hexane Extractable

TABLE B 10
IRRIGATION WATER QUALITY STANDARDS AT THE POINT OF DISCHARGE TO IRRIGATION SYSTEM "MAJOR" POLLUTANTS

PARAMETER[1]	UNITS	Maximum Allowable	Monthly Average
PHYSICAL			
Total Dissolved Solids	mg/l	2000	1750
CHEMICAL			
Arsenic	mg/l	0.1	-
Barium	mg/l	1	-
Beryllium	mg/l	0.1	-
BOD_5	mg/l	10 / 40[4]	-
Boron	mg/l	0.75	-
Cadmium	mg/l	0.01	-
COD	mg/l	50	-
Chlorine Residual (Free)	mg/l	0.5 (min)	-
Chromium	mg/l	0.01	-
Cobalt	mg/l	0.05	-
Copper	mg/l	0.2	-
Cyanide	mg/l	0.05	-
Lead	mg/l	0.5	0.1
Lithium	mg/l	2.5	-
Manganese	mg/l	0.2	0.02
Mercury	mg/l	0.001	-
Molybdenum	mg/l	0.01	-
Nickel	mg/l	0.02	-
Oil and Grease	mg/l	Nil	-
pH	pH units	6 - 8.4	-
Phenols	mg/l	0.002	-
Selenium	mg/l	0.02	-
Silver	mg/l	0.5	-
Sodium	mg/l	1000	500
Sodium Adsorption Ratio (SAR)	SAR units	20	10
Sulphide	mg/l	0.1	0.05
Total Organic Carbon	mg/l	40	-
Vanadium	mg/l	0.1	-
BACTERIOLOGICAL			
Total Coliforms(2)	MPN/100 ml	23	2.2[3]
Faecal Coliforms	MPN/100 ml	1	-
PARASITOLOGICAL			
Nematodes (eggs)	No./1000 ml	1	-
Protozoan Cysts	No./10 ml	1	-
Platyhelminths-flatworms	No./10 ml	1	-

Notes:

1) For any parameters not identified, specific standards will be determined on a case-by-case basis

2) Reclaimed water shall at all times be adequately disinfected, oxidized, clarified and filtered.

3) The wastewater shall be considered disinfected if the median number of coliform organisms in the effluent does not exceed 2.2 total coliforms MPN per 100 ml, as determined from the results of the last seven days for which analyses have been completed, AND if the number of coliforms does not exceed 23 total coliforms per 100 ml in any sample.

4) Higher value applicable only to irrigation of highway green belts, street islands and bushes and areas not accessed by the public.

TABLE B 11
IRRIGATION WATER QUALITY STANDARDS AT THE POINT OF DISCHARGE TO IRRIGATION SYSTEM "MINOR" POLLUTANTS

PARAMETER[1]	UNITS	Maximum Allowable	Monthly Average
PHYSICAL			
Floating Particles	mg/m^2	Nil	-
Total Suspended Solids	mg/l	10 / 40[5]	10
Turbidity[2]	N.T.U.	5	2
CHEMICAL			
Aluminum	mg/l	5	-
Ammonia, Total as N	mg/l	5	-
Chloride	mg/l	1000	500
Dissolved Oxygen[3]	mg/l	2.0 (min.)	-
Fluoride[4]	mg/l	15	5
Iron	mg/l	5	-
Nitrate	mg/l	10	-
Phosphorus, total as P	mg/l	30	20
Sulphate	mg/l	600	-
Total Kjeldahl Nitrogen	mg/l	60	35
Zinc	mg/l	2	-

Notes:

1) For any parameters not identified, specific standards will be determined on a case-by-case basis
2) Maximum turbidity not to be exceeded more than 5% of the time in the 24-hour period.
3) Dissolved oxygen level is a minimum concentration requirement
4) Reclaimed water shall at all times be adequately disinfected, oxidized, clarified and filtered.
5) Higher value applicable only to irrigation of highway green belts, street islands and bushes and areas not accessed by the public.

TABLE B 12
DRINKING WATER QUALITY STANDARDS AT THE POINT OF SUPPLY TO DRINKING WATER DISTRIBUTION NETWORK AND USE[1]
"MAJOR" POLLUTANTS

PARAMETER	UNITS	Minimum Concentration	Maximum Concentration
PHYSICAL			
Taste & Odour	-	-	Unobjectionable
Total Dissolved Solids	mg/l	100	500
Turbidity[2]	N.T.U.	-	1
ALKALINITY			
CO_2 (free)	mg/l	-	Nil
PH	pH units	6.5	8.5
INORGANIC			
Aluminum	mg/l	-	0.1
Ammonium (as NH_4^+) [3]	mg/l	-	0.5
Antimony	mg/l	-	0.02
Arsenic	mg/l	-	0.01 (A,T)
Barium	mg/l	-	0.7
Boron	mg/l	-	2.4
Bromate	mg/l	-	0.01[a] (A,T)
Cadmium	mg/l	-	0.003
Chlorate	mg/l		0.7 (D)
Chlorite	mg/l	-	0.7 (D)
Chlorine Residual (Free)	mg/l	0.2	0.5
Chromium (Total)	mg/l	-	0.05 (P)
Copper	mg/l	-	2
Cyanide	mg/l	-	0.07
Dissolved Oxygen[4]	mg/l	-	-
Fluoride	mg/l	-	1.5
Iron	mg/l	-	0.3
Lead	mg/l	-	0.01(A,T)
Manganese	mg/l	-	0.4 (C)
Mercury (Inorganic)	mg/l	-	0.006
Molybdenum	mg/l	-	0.07
Nickel	mg/l	-	0.07
Nitrite as NO_2 [5]	mg/l	-	0.2
Selenium	mg/l	-	0.04 (P)
Sulfide	mg/l	-	0.002
Uranium	mg/l	-	0.03(P)

TABLE 12 (Continued)

PARAMETER	UNITS	Minimum Concentration	Maximum Concentration
ORGANIC			
Acrylamide	mg/l	-	0.0005[a]
Alachlor	mg/l	-	0.02[a]
Aldicarb	mg/l	-	0.01 applies to sulfoxide and sulfone
Aldrin and Dieldrin	mg/l	-	0.00003
Atrazine and chloro-s-triazine metabolites	mg/l	-	0.1
Benzene	mg/l	-	0.01[a]
Benzo-a-pyrene	mg/l	-	0.0007[a]
Bromoform	mg/l	-	0.1
Bromodichloromethane	mg/l	-	0.06[a]
Carbofuran	mg/l	-	0.007
Carbon Tetrachloride	mg/l	-	0.004
Chloral Hydrate	mg/l	-	0.01
Chlordane	mg/l	-	0.0002
Chloroform	mg/l	-	0.3
Chlorotoluron	mg/l	-	0.03
Chlorpyrifos	mg/l	-	0.03
Cyanazine	mg/l	-	0.0006
Cyanogen Chloride	mg/l	-	0.07
2,4-D[b]	mg/l	-	0.03
2,4-DB[c]	mg/l	-	0.09
DDT[d] and metabolites	mg/l	-	0.001
Dibromoacetonitrile	mg/l	-	0.07
Dibromochloromethane	mg/l	-	0.1
1,2-Dibromo-3-chloropropane	mg/l	-	0.001[a]
1,2-Dibromoethane	mg/l	-	0.0004 [a] (P)
Dichloroacetate	mg/l	-	0.05 [a] (D)
Dichloroacetic acid	mg/l	-	0.05
Dichloroacetonitrile	mg/l	-	0.02(P)
1,2-Dichlorobenzene	mg/l	-	1 (C)
1,4-Dichlorobenzene	mg/l	-	0.3 (C)
1,2-Dichloroethane	mg/l	-	0.03) [a]
1,1-Dichloroethene	mg/l	-	0.03
1,2-Dichloroethene	mg/l	-	0.05
Di(2-ethylhexyl)adipate	mg/l	-	0.08
Di(2-ethylhexyl)phthalate	mg/l	-	0.008
Dichloromethane	mg/l	-	0.02
1,2-Dichloropropane	mg/l	-	0.04 (P)
1,3-Dichloropropene	mg/l	-	0.02 [a]

TABLE 12 (Continued)

PARAMETER	UNITS	Minimum Concentration	Maximum Concentration
ORGANIC			
Dichlorprop	mg/l	-	0.1
Dimethoate	mg/l	-	0.006
1,4-Dioxane	mg/l	-	0.05 [a]
Edetic acid (EDTA)	mg/l	-	0.6 (Free acid)
Endrin	mg/l	-	0.0006
Epichlorohydrin	mg/l	-	0.0004 (P)
Ethylbenzene	mg/l	-	0.3 (C)
Fenoprop	mg/l	-	0.009
Formaldehyde	mg/l	-	0.9
Hexachlorobenzene	mg/l	-	0.0001
Hexachlorobutadiene	mg/l	-	0.0006
Hydroxyatrazine	mg/l	-	0.2 (Atrazine metabolites)
Isoproturon	mg/l	-	0.009
Lindane	mg/l	-	0.002
MCPA[e]	mg/l	-	0.002
Mecoprop	mg/l	-	0.01
Methoxychlor	mg/l	-	0.02
Metolachlor	mg/l	-	0.01
Molinate	mg/l	-	0.006
Monochloroacetate	mg/l	-	0.02
Monochloramine	mg/l	-	3
Monochlorobenzene	mg/l	-	0.3
Microcystin-LR (Total)	mg/l	-	0.001 (P)
N-nitrosodimethylamine (NDMA)	mg/l	-	0.0001
Nitrilotriacetic acid	mg/l	-	0.2
Pendimethalin	mg/l	-	0.02
Pentachlorophenol	mg/l	-	0.009 [a] (P)
Permethrin	mg/l	-	0.3
Phenol [6]	mg/l	-	0.001
Simazine	mg/l	-	0.002
Sodium dichloroisocyanurate	mg/l	-	50 40 as Cyanuric Acid
Styrene	mg/l	-	0.02 (C)

TABLE 12 (Continued)

PARAMETER	UNITS	Minimum Concentration	Maximum Concentration
ORGANIC (cont)			
Surfactants MBAS [6]	mg/l	-	0.2
2,4,5-T[f]	mg/l	-	0.009
Terbuthylazine	mg/l	-	0.007
Tetrachloroethene	mg/l	-	0.04
Toluene	mg/l	-	0.7 (C)
Total Trihalomethanes (THMs)[7]	mg/l	-	0.08 [8]
Trichloroacetate	mg/l	-	0.2
Trichloroethene	mg/l	-	0.02(P)
Trichloroacetic acid	mg/l	-	0.1
Trichlorobenzene (total)	mg/l	-	0.02
1,1,1-trichloroethane	mg/l	-	2
2,4,6-Trichlorophenol	mg/l	-	0.2 [a] (C)
Trifluralin	mg/l	-	0.02
Vinyl chloride	mg/l	-	0.0003 [a]
Xylenes	mg/l	-	0.5 (C)
BACTERIOLOGICAL[9]			
Total Coliform	Per 100 ml	0	0
E-coli or thermotolerant coliform bacteria [10]	Per 100 ml	-	0

Notes:
1) World Health Organization, Guidelines for Drinking-water Quality Second Edition (Volume 2) Health criteria and other supporting information (1999); WHO Guidelines for Drinking-water Quality Fourth Edition (2011).
2) Median turbidity value shall not exceed 1 NTU and not exceeding 5NTU in any single sample.
3) Department for Regional Development, European and National Drinking Water Standards, Northern Ireland Environment Agency.
(http://www.doeni.gov.uk/niea/water-home/drinking_water/public_water/regulations_guidance.htm)
4) DO level shall be maintained as near saturation as possible.
5) Drinking-Water Standards for New Zealand (Revised 2008), Ministry of Health, Wellington, New Zealand.
6) Handbook of Drinking Water Quality, Second Edition (1997) by John De Zuane, John Wiley & Sons, Inc.
7) Where elevated levels of THMs are found in any sample, other disinfection by-products (as Table 3F) shall be analyzed.
8) National Primary Drinking Water Regulations, US EPA 816-F-09-004, May 2009.
9) Immediate investigative action must be taken if E. Coli or total coliform are detected. The minimal action in the case of total coliform bacteria is repeat sampling, if these bacteria are detected in the repeat sample, the cause must be determined by immediate further investigation.
10) E-Coli shall be used as indicator for the presence of pathogens arising faecal

contamination from a water supply.

Foot-notes as per WHO Document:

P =Provisional guideline value, because of uncertainties in the health database

T =Based on provisional guideline value because calculated guideline value is below the level that can be achieved through practical treatment methods, source protection, etc.

A =Based on provisional guideline value because calculated guideline value is below the achievable quantification level

D=Based on provisional guideline value because disinfection is likely to result in the guideline value being exceeded

C=Concentrations of the substance at or below the health-based guideline value may affect the appearance, taste or odor of the water, leading to consumer complaints.

    a.   For substances that are considered to be carcinogenic, the guideline value is the concentration in drinking water associated with an upper-bound excess lifetime cancer risk of 10^{-5} (one additional cancer per 100,000 of the population ingesting drinking water containing the substance at guideline value for 70 years). Concentrations associated with upper-bound estimated excess lifetime cancer risks of 10^{-4} and 10^{-6} can be calculated by multiplying and dividing respectively, the guideline value by 10.

    b.   2,4-Dichlorophenoxyacetic acid

    c.   2,4-Dichlorophenoxybutyric acid

    d.   Dichlorodiphenyltrichloroethane

    e.   4-chloro-2-methylphenoxyacetic acid (MCPA)

    f.   2,4,5-trichlorophenoxyacetic acid

TABLE B 13
DRINKING WATER QUALITY STANDARDS AT THE POINT OF SUPPLY TO DRINKING WATER DISTRIBUTION NETWORK AND USE[1]
"MINOR" POLLUTANTS

PARAMETER	UNITS	Minimum Concentration	Maximum Concentration
ALKALINITY			
Calcium	mg/l	30	-
Magnesium	mg/l	5.0	-
Total Alkalinity (as $CaCO_3$)	mg/l	40	-
Total Hardness (as $CaCO_3$)	mg/l	75	500
INORGANIC			
Chloride	mg/l	-	250
Nitrate as NO_3 [2]	mg/l	-	50
Potassium	mg/l	-	10
Sodium	mg/l	-	30
Sulphate	mg/l	-	250
Zinc	mg/l	-	3.0

Notes:

1) World Health Organization, Guidelines for Drinking-water Quality Second Edition (Volume 2) Health criteria and other supporting information (1999); WHO Guidelines for Drinking-water Quality Fourth Edition (2011).
2) Department for Regional Development, European and National Drinking Water Standards, Northern Ireland Environment Agency.
(http://www.doeni.gov.uk/niea/water-home/drinking_water/public_water/regulations_guidance.htm)

APPENDIX C
VARIABLE AIR PENALTY FINES

APPENDIX C - VARIABLE AIR PENALTY FINES

C1.   APPLICABLE VIOLATIONS

This variable air penalty system is used by the Royal Commission in enforcement actions involving violations of the point source air emission standards specified in the Royal Commission Environmental Regulations.

C2.   BASIS FOR FINES

The monitoring of point source emissions is the responsibility of industry in accordance with the Royal Commission Environmental Regulations and any conditions stipulated within the Environmental Permit to Operate. Consistent with the Regulations the Royal Commission shall be informed of any planned air monitoring at least 30 days prior to testing and given the opportunity to witness the emissions monitoring. The Royal Commission may also undertake its own emission monitoring at any time or review the operation of continuous monitoring equipment. All sampling and analysis shall be in accordance with approved EPA procedures.

Fines may be based on air emissions data provided by either continuous emissions monitoring equipment or by spot sampling of the emission sources. In case of a dispute involving analytical results, those results witnessed or generated by the Royal Commission shall be utilized for the purposes of assessing the fine.

The operators of facilities with emissions in violation of the relevant environmental standards will be subject to a fine, which will continue to accrue until the time that the emission is back in compliance. It is the responsibility of the industries to inform the Royal Commission about the return to compliance and the Royal Commission will verify the claim.

C3.   DETERMINATION OF THE AMOUNT OF THE PENALTY FINES

C3.1   Continuous or Point Source Emission Monitoring

C3.1.1 For all violations relating to results from monitoring of point source emissions, the following formula will apply to calculate the total penalty:

$$T = P + F \sum_{0}^{i} \left(C_i H_i \frac{(R_i - L_i)}{L_i} \right)$$

where :

T =   Total penalty (Saudi Riyals)
P =   Minimum Fine (SR 5,000)
F =   Flowrate (m^3/h) determined in order of preference by:
    1) The mean flowrate measured during the time of non-compliant emission
    2) Single flowrate measurement measured at time of non-compliant emission
    3) Average annual emission flowrate from source
    4) Design emission flowrate
    5) Calculated emission flowrate
C_i =   Cost factor for each non-compliant parameter (i)
H_i =   The lesser of either:
    1) The number of hours between first and last non-compliant sample for each parameter (i); or
    2) The number of hours between the first non-compliant sample for each parameter (i) and the implementation of an agreed compliance plan
    If there is only one non-compliant result $H_i = 1$
R_i =   Time weighted average of non-compliant test results for each parameter (i)
L_i =   Limit value for each non-compliant parameter (i) (Table 2B, RCER-**2015**, Volume I)

C3.1.2 The cost factor C_i shall be established as follows:

C_i =   0.002 for emissions of non-hazardous air pollutants
C_i =   0.004 for emissions containing hazardous air pollutants
    (see Table 2C of RCER-**2015**, Volume I, Regulations and Standards)

C3.1.3 For all fines calculated from continuous emission monitoring results, the minimum penalty (P) shall be applied no more than once per 24 hour period

C4   EXAMPLE CALCULATIONS

Example 1

An industry in Jubail received a batch of high sulphur content fuel oil for use in its 40 MW steam generating unit. Royal Commission review of the facility records for the continuous combustion gas analyzer indicated that sulphur dioxide emissions were elevated for the time period of eight days and four hours that this batch of fuel was being consumed. The mean sulphur dioxide emission concentration was 250 mg/m^3 and the mean emission flowrate was 150,000 m^3/h.

Additional data required:

The sulphur dioxide standard for this process is 215 ng/J which equals 215 mg/MJ
Sulphur dioxide is not classified as a hazardous air pollutant, therefore C = 0.002

Calculation:

40 MW = 40 MJ/s = 40 x 3600 = 144,000 MJ/h
Mass sulphur dioxide emission per hour = 250 x 150,000 = 37.5 x 10^6 mg/h.
Mass sulphur dioxide emission per MJ = 37.5 x 10^6 / 144,000 = 260.4 mg/MJ.
Emission duration = (8 d x 24 h/d) + 4 h = 196 hours.

Penalty formula:

$$T = P + F \sum_{0}^{i} \left(C_i H_i \frac{(R_i - L_i)}{L_i} \right)$$

For Example 1   T = 5000 + 150000 x [(0.002 x 196 x (260.4-215)/215)]

                       T = SR. 17,416

Adjustment:

No adjustment factors are considered necessary.

Final Penalty   SR. 17,416

Example 2

In Yanbu, a steel plant electric arc furnace emission was sampled on 12th March. The report showed that the particulate emission was 35 mg/m^3 compared to the standard of 12 mg/m^3. A second spot sample was taken in 26th March produced a result of 31 mg/m^3. The average emission flowrate was 108,000 m^3/h. The steel plant reported the non-compliance event to the Royal Commission.

On 20th April the facility implemented a compliance plan involving a program to retrofit the baghouse system at the next plant shutdown. The retrofit was completed by the compliance plan due date of 31st October and a third test found the emission to be compliant.

Additional data required:

Particulates are not classified as a hazardous air pollutants, therefore C = 0.002

Calculation:

Time weighted average of non-compliant results:

$$R = \frac{35 \times 14 + 31 \times 25}{39} = 32.4 \text{ mg/m}^3$$

Time between non-compliant sample and implementation of the compliance plan:

$$H_i = \text{12th March to 20th April} = 39 \text{ days} = 936 \text{ hours}$$

Penalty Formula:

$$T = P + F \sum_{0}^{i} \left(C_i H_i \frac{(R_i - L_i)}{L_i} \right)$$

For Example 2   T = 5000 + 108,000 x [(0.002x 936 x (32.4-12)/12)]

                         T = SR. 348,699

Compliance Incentive Adjustment:

The fine is reduced by a factor of 0.75 because the facility self-reported the violation (see Section 3.3). The final penalty is

Final penalty   SR. 348,699 x 0.75 = SR. 261,524

Fine Accrual During Compliance Period

During the agreed compliance period the fine continues to accrue at a rate of

[108,000 x (0.002x 24 x (32.4-12)/12)] x 0.75   = SR. 6,609 per day

The Royal Commission made the company aware of the fine accrual rate, but agreed to waive the accrued fine if the compliance plan was implemented by the agreed date.   This incentive encouraged the facility to complete the necessary retrofit within the agreed time scale.

The total accrued fine would have been = SR 6,609 x 195 days = SR 1,288,755.
But as per maximum permissible fine, only SR. 500,000 would be charged.

Given the size of the accrued fine, if the compliance plan had not been met the Royal Commission would have issued the additional fine of SR 500,000 - SR 261,524 = SR 238,476 to bring the total fine to the maximum permissible for a single violation of SR 500,000 (see Section 3.4).

Example 3

A manufacturer with a reactor process involving toluene and isopropanol solvents has three process vents. Sampling of the vents was undertaken on 10th September. The results of the analysis were obtained on 2nd October and were immediately forwarded to the Royal Commission. The results were as follows:

Parameter	Vent 1	Vent 2	Vent 3
Flowrate (m^3/h)	1000	1200	2500
TOC (ppmv)	140	84	19
Toluene (ppmv)	50	0	12
Isopropanol (ppmv)	68	63	7

Additional Data Required:

TOC emission standard is 20 ppmv.
Time between date of sampling and reporting = 22 days = 528 hours
Vents 1 and 2 are out of compliance with the TOC emission standard
Vent 1 has one hazardous air pollutant - toluene; therefore C = 0.004
Vent 2 has no hazardous air pollutants; therefore C = 0.002

Penalty formula:

$$T = P + F \sum_{0}^{i} \left(C_i H_i \frac{(R_i - L_i)}{L_i} \right)$$

Calculation of Fine due on 2nd October

For Vent 1   T = 5000 + [1000 x (0.004 x 528 x (140-20)/20)]
                              T = SR 17,672

For Vent 2   T = 5000 + [1200x(0.002 x 528 x (84-20)/20)]

$$T = SR\ 9,055$$

The Royal Commission advised the company that based on the results presented to date the company was liable for an air penalty fine of SR. 26,727.

<u>Calculation of Daily Accrual Rate of Fine</u>

For Vent 1   T = 1000 x (0.004 x 24 x (140-20)/20)
                               T = SR 576

For Vent 2   T = 1200 x (0.002 x 24 x (84-20)/20)
                               T = SR 184

The Royal Commission advised the company that an additional fine would accrue at a rate of SR. 576 per day for Vent 1 and SR 184 per day for Vent 2 until such time that either compliance with the standards could be demonstrated or that a compliance plan was agreed between the company and the Royal Commission.

The company submitted a claim for waiver of the penalty on the grounds that they were in the process of changing from a solvent based to water based reaction, which would eliminate the VOC emissions. The Royal Commission accepted this claim and agreed to waive the penalty provided that the transfer to water based reaction was completed within six months.

C5.   TYPICAL VARIABLE   AIR PENALTY SCALES

In Table C1, a typical scale is provided as an example to show the penalty, which would be charged against a non-compliance of industrial air emission. Penalties are estimated using formulae given in Section C3 to cover several hypothetical non-compliance situations.

TABLE C1
AIR EMISSION NON-COMPLIANCES
EXAMPLE OF TYPICAL VARIABLE PENALTY

NON-HAZARDOUS AIR POLLUTANTS (C=0.002 L=1) **C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l**								
F Flow Rate M^3/ Hour	50000	50000	50000	20000	100000	200000	300000	200000
R Observed Value of a Pollutant mg/ l	1.5 50% Increase	2 100% Increase	4 300% Increase	2 100% Increase	2 100% Increase	2 100% Increase	2 100% Increase	4 300% Increase
H Hours of Non-Compliance	T, Total Variable Fine, SR							
4	5200	5400	6200	5160	5800	6600	7400	9800
12	5600	6200	8600	5480	7400	9800	12200	19400
24	6200	7400	12200	5960	9800	14600	19400	33800
72	8600	12200	26600	7880	19400	33800	48200	91400
128	11400	17800	43400	10120	30600	56200	81800	158600
256	17800	30600	81800	15240	56200	107400	158600	312200
HAZARDOUS AIR POLLUTANTS (C=0.004 L=1) **C= Cost Factor, L= Limit (Standard) value of a Pollutant ,mg/ l**								
F Flow Rate M^3/ Hour	50000	50000	50000	20000	100000	200000	300000	200000
R Observed Value of a Pollutant mg/ l	1.5 50% Increase	2 100% Increase	4 300% Increase	2 100% Increase	2 100% Increase	2 100% Increase	2 100% Increase	4 300% Increase
H Hours of Non-Compliance	T, Total Variable Fine, SR							
4	5400	5800	7400	5320	6600	8200	9800	14600
12	6200	7400	12200	5960	9800	14600	19400	33800
24	7400	9800	19400	6920	14600	24200	33800	62600
72	12200	19400	48200	10760	33800	62600	91400	177800
128	17800	30600	81800	15240	56200	107400	158600	312200
256	30600	56200	158600	25480	107400	209800	312200	619400

APPENDIX D
Notices of Non-Compliance And Violation Closure Certificates

Royal Commission for Jubail & Yanbu, Directorate General of the Royal Commission in Jubail / Yanbu

URGENT NOTICE OF NON-COMPLIANCE

Date: _____
Notice No: _____

Receipt of this URGENT NOTICE OF NON-COMPLIANCE serves as notification that ___Industry A___of Jubail / Yanbu / Ras Al Khair Facility is in violation of the Royal Commission Environmental Regulations-2015. As such the referenced industry is requested to take all necessary action to immediately discontinue the violation, and to provide clarification/explanation of the noted violation to the RC-EPCD within 48 hours. In the event that the violation continues unabated, statutory penalties of up to ----------SR will be incurred by the violator for each day of non-compliance.

Please be advised, that in accordance with the requirements of Environmental Penalty System, this notice also serves as a preamble to receiving a PENALTY NOTICE FOR NON-COMPLIANCE which will be forwarded once a full assessment of the violation has been conducted.

DATE OF VIOLATION: _____

BASIS OF VIOLATION:

Violation of Regulation(s): _____
Description: _____
_____
_____
_____
_____

Signature:

　　　　　　RC Authorized Representative at the Industrial City

Please provide immediate conformation upon receipt of this notice to RC Environmental Protection and Control Department (EPCD), Jubail Fax (03-341-0053), Yanbu Fax (04-392-6630), and Ras Al Khair (03-341-0053)

Royal Commission for Jubail & Yanbu, Directorate General of the Royal Commission in Jubail / Yanbu

PENALTY NOTICE OF NON-COMPLIANCE

Date:_____

Notice No:_____

Receipt of this NOTICE OF NON-COMPLIANCE serves as notification that ___Industry A___of Jubail / Yanbu / Ras Al Khair Facility is in violation of the Royal Commission Environmental Regulations- 2015. As such the referenced industry shall comply with the requirements of the Environmental Penalty System.

DATE OF VIOLATION: _____

BASIS OF VIOLATION: The factual basis used to determine the severity of the violation and subsequent penalty is documented as follows. The specific parameters of concern, duration, measured results and RCER standards are attached as necessary:

Violation of Regulation(s) :
Description:

The above information was applied to the calculation of a fine in accordance with the Royal Commission Environmental Penalty System. The resulting fine has been established as SR _____. Additional penalties may accrue during the time period of any delays including but not limited to denied exemption claims, or delayed response to Royal Commission requests.

Duties of Facility   Operator upon Receipt of a Notice of Non-compliance.

Upon receipt of a Notice of Non-Compliance the operator of the facility in violation of an environmental regulation shall:

(a)   Immediately take all reasonable measures to minimize the impact of the violation.

(b)   Within a period of 10 working days (from date above) the operator of the facility provide reasons for each violation and explain the immediate measures taken to minimize the impact of the incident.

(c)   Within a period of 20 working days (from date above) the operator of the facility shall submit a compliance plan and schedule to prevent recurrence of the violation to the Royal Commission for approval.

(d)   Within a period not exceeding 30 working days (from date above) after receiving a Notice of Non-compliance the facility operator shall either:

(i)   Pay the fine in full. (Note - the payment of the fine does not waive the compliance requirements for the facility). or

(ii)   Submit an appeal for a reduction, suspension or waiver of the penalty with a detailed justification. The lack of knowledge of the cause or existence of non-compliance is not acceptable as a reason for waiver or reduction of the penalty. This must be submitted directly to the Executive President of the Directorate of the Royal Commission at the Industrial City.

Signature: --
           RC Authorized Representative at the Industrial City

Royal Commission for Jubail & Yanbu, Directorate General of the Royal Commission in Jubail / Yanbu

VIOLATION CLOSURE CERTIFICATE

Date:_____

Certificate No:_____

Receipt of this VIOLATION CLOSURE CERTIFICATE serves as notification that ___Industry A___of Jubail / Yanbu / Ras Al Khair Facility has concluded its responsibilities with respect to the violation(s) committed on __date___, relating to the Notice of Non-Compliance No. _____

The Royal Commission is receipt of payment of SR ___ ____ penalty for the above violation(s).

As a condition of the violation closure, the operator of the affected facility shall prevent recurrence of the violation by implementation of the following compliance schedule and/or conditions of operation:

The above conditions shall form an integral part of the facility's "Environmental Permit to Operate" and are, therefore, a condition of ongoing facility operation. The Royal Commission retains the right to request information or to perform necessary inspections, upon reasonable notice, to assure that the referenced facility is upholding the agreed compliance conditions.

Signature: ---

RC Authorized Representative at the Industrial City

WKC