APPENDIX 2

PROJECT ENVIRONMENTAL AND SOCIAL STANDARDS

Prepared by:
ENVIRON

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YAMAL LNG

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1 INTRODUCTION

The purpose of this Project Environmental and Social Standards Document ("the Project Standards") is to summarize the national and international standards and guidelines that are applicable to the Yamal LNG Project ("the Project"), and to document the standards and guidelines adopted for the Project.

The Project Standards document is a Project Environmental and Social Management Control Document that forms part of the Project Environmental and Social Management System (ESMS) and is central to the preparation of the international ESIA documentation.

Project Standards are also used to inform and guide the continuing development of the Project particularly in respect of compliance with regulatory and Lender requirements. The Project Standards are therefore subject to amendment and updating as external requirements (and the requirements of the Project) continue to evolve. For example, while the Project Standards are largely derived from the standards and guidelines cited in the national Environmental Impact Assessments (EIAs) and other defined Source Documents, they will also encompass any standards and guidelines laid out in the design documentation that will apply to the Project.

2 DEVELOPMENT OF THE PROJECT STANDARDS

The Project Standards have been derived from various source documents, primarily the Russian environmental submissions, national environmental law and international standards typically employed by International Financial Institutions.

2.1 STRATEGY

The following approach will be taken to prevent and reduce environmental impact and threats to the aquatic and onshore environment.

- Compliance with Russian environmental and social codes and standards. Project Specific Technical Standards will be generated to define standards that will be applied to any areas of regulatory uncertainty.
- Compliance with Good International Industry Practice (GIIP) for pollution prevention and control.
- Utilization of the best available techniques in the context of Russian Federation regulatory requirements and EU Best Available Techniques.

Where environmental regulations require the application of Best Available Techniques (BAT), this will be interpreted as the application of state-of-the-art proven technology following recognised guidance on best available technology selection. In the context of this project, Russian Federation good practice guidance will be used to determine Best Available Techniques for environmental protection. In addition, the EU Reference Documents on Best Available Techniques (EU BREF documents) will also be used as reference documents for determination of BAT for key emissions sources, and in particular large combustion plants[1] and condensate and LNG storage[2].

Where there is a discrepancy between Russian Federation and international good practice/guidance on emission limits/environmental quality standards, the most stringent limit will be used unless there is a strong justification to deviate from the most stringent limits.

Compliance with Russian standards and adoption of Best Available Techniques to minimise emissions and discharges to the environment will also serve to protect community health. For other social impacts, such as resettlement, influx management, stakeholder engagement etc. numeric standards are generally not applicable. Nevertheless, the most appropriate good practice management techniques will be used, drawing upon Russian and international standards and practices as appropriate to ensure adverse effects are minimised and positive impacts are enhanced.

The remainder of this Chapter details numerous standards and guidelines. Some of these are directly relevant to the Project, whereas others are of less direct relevance or they are only relevant in part. In Section 2.7 project numeric standards are provided in a series of tables. The numeric standards have been identified as directly relevant to the Project.

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1 Adopted Large Combustion Plants BREF 2006

2 Adopted Emissions from Storage BREF 2006

2.2 SOURCE DOCUMENTS

The Source Documents for this Project Standards Document include:

- International treaties and conventions;
- Lenders' guidelines/standards that will be required by potential Lenders to the Project (see Section 2.4 and 2.5);
- Legal and Regulatory documents of the Russian Federation;
- Yamal LNG Environmental Basis of Design. Document No:175700-000000-SE-DB-00001. The scope of the BOD document is limited to the LNG Complex, including LNG processing, storage and loading, condensate loading, power generation, utilities, support systems and infrastructure.
- Engineering and environmental surveys, design documentation and corresponding permitting documentation for all the facilities (LNG plant, drilling projects, camp, marine port, airport and landfill).

2.3 NATIONAL LEGISLATIVE REQUIREMENTS

A comprehensive list of applicable national environmental and social legislative requirements is provided in Annex B, and summary descriptions of the key aspects of the main national and regional legislation are provided in Annex C. Numeric standards applicable to the Project are presented in Tables 1 – 6 of Annex A.

2.4 TREATIES AND CONVENTIONS

The Source Documents refer to various international treaties and conventions that may apply to the Project (to the extent that they are relevant to the scope and nature of the Project). These are listed below and summary descriptions of the key aspects of the main treaties and conventions are provided in Annex C:

Impact Assessment

- Convention on Environmental Impact Assessment in a Transboundary Context, 1991 (amended in 2004) (Espoo Convention)[3].

Airport

- International Civil Aviation Organisation, Airport Planning Manual, Part 2: Land use and Environmental Control, 2002.

Biodiversity

- Convention on Biological Diversity, 1992;
- Convention on the Protection of Migratory Species, 1979 (Bonn Convention);
- Convention on Wetlands of International Importance Especially on Wildfowl Habitat, 1971 (the Ramsar Convention);
- Convention on International Trade in Endangered Species of Wild Flora and Fauna, 1973 (CITES).

[3] It is noted that at the time of writing the Espoo Convention has not been ratified by the Russian Federation. It is also noted that the will only be relevant if the Project Area Influence as identified in the ESIA extends beyond international boundaries.

Air quality and climate change

- United Nations Framework Convention on Climate Change, 1992;
- Kyoto Protocol, 1997;
- Vienna Convention for the Protection of the Ozone Layer, 1988;
- Montreal Protocol on Substances that Deplete the Ozone Layer, 1989.
- Sofia Protocol on the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, 1988.

Waste

- Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989 (Basel Convention);
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (The London Convention).
- 40 C.F.R (Protection of Environment) Part 146 – Underground Injection Control Program: Criteria and Standards. Sub part C - Criteria and Standards Applicable to Class II Wells.

Stakeholder Engagement

- Convention on Access to Information, Public Participation in decision making and Access to Justice in Environmental Matters, 1998 (Aarhus Convention)[4].

Cultural Heritage

- Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972;
- Convention for the Safeguarding of the Intangible Cultural Heritage, 2003.

Community and Workforce

- ILO conventions including the core conventions protecting workers' rights and the UN conventions protecting the rights of the child and of migrant workers:
  - ILO Convention 87 on Freedom of Association and Protection of the Right to Organize;
  - ILO Convention 98 on the Right to Organize and Collective Bargaining;
  - ILO Convention 29 on Forced Labour;
  - ILO Convention 105 on the Abolition of Forced Labour;
  - ILO Convention 138 on Minimum Age (of Employment);
  - ILO Convention 182 on the Worst Forms of Child Labour;
  - ILO Convention 100 on Equal Remuneration;
  - ILO Convention 111 on Discrimination (Employment and Occupation);
  - ILO Convention 169 on Indigenous and Tribal Peoples;
  - UN Convention on the Rights of the Child, and specifically Article 32.1[(5)]; and

4 It is noted that at the time of writing the Aarhus Convention has not been ratified by the Russian Federation.

5 Article 32.1 of the Convention requires that States Parties recognise the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development.

- UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families.

Human Rights

- The International Bill of Human Rights, 1948

Shipping (in the context of vessels used during the construction phase and as associated facilities/activities in the operations phase of the project). The list below does not address all maritime safety conventions as these are considered outside of the scope of this document.

- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (The London Convention);
- International Convention for the Prevention of Pollution from Ships, 1973 as amended by the Protocol of 1978 relating thereto (MARPOL 73/78);
- International Convention on Civil Liability for Oil Pollution Damage, 1969, and the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969;
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971, and the Protocol of 1992 ;
- International Convention Relating to Intervention of the High Seas in Cases of Oil Pollution Casualties, 1969;
- International Convention for the Control and Management of Ships' Ballast Water and Sediments (ratified by Russia - not yet in force);
- International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001;
- United Nations Convention on the Law of Sea, 1994 (UNCLOS);
- Safety of Life at Sea (SOLAS) Convention for the Safety of Life at Sea, 1974;
- International Convention on Oil Pollution Preparedness, Response and Co-operation 1990 (OPRC 90).

2.5 LENDER REQUIREMENTS

The Source Documents refer to the following requirements of potential Lenders to the Project:

2.5.1 THE EQUATOR PRINCIPLES (2013)

In identifying applicable standards under the Equator Principles, reference is made to the provisions of Principle 3: "Applicable Social and Environmental Standards". Other Principles are also applicable to the Project.

2.5.2 THE OECD COMMON APPROACHES (2012)

Export Credit Agencies (ECAs) from member states of the Organisation for Economic Cooperation and Development apply the 'Revised Council Recommendation on Common Approaches on the Environment and Officially Supported Export Credits' ("the Common Approaches"), which were most recently updated in 2012 to incorporate reference to the 2012 IFC Performance Standards.

The 2012 Common Approaches provide guidance to ECAs for screening, classifying and reviewing projects under consideration by ECAs. These reviews benchmark projects against host country standards and one or more of the following international standards:

- The ten World Bank Safeguard Policies;
- The eight IFC Performance Standards (see below);
- Relevant aspects of the standards of Regional Development Banks (such as EBRD);
- Relevant internationally recognised standards such as those of the European Union.

In addition, Members may also benchmark projects against the relevant aspects of any internationally recognised sector specific or issue specific standards that are not addressed by the World Bank Group.

2.5.3 IFC PERFORMANCE STANDARDS (2012)

The IFC recently developed and published an updated Sustainability Framework, which includes a revised Policy on Environmental and Social Sustainability and revised Performance Standards. This new Sustainability Framework took effect on the 1st January 2012. The eight performance Standards are supported by IFC EHS guidelines.

2.5.4 APPLICABLE IFC EHS GUIDELINES (2007)

IFC EHS guidelines that are applicable to the Project are:

- General EHS Guidelines, 2007;
- Onshore Oil and Gas Development, 2007;
- Liquefied Natural Gas (LNG) Development, 2007;
- Thermal Power plant (applicable to the main power units)
- Crude Oil and Petroleum Product Terminals, 2007;
- Ports, Harbors and Terminals, 2007;
- Airports, 2007;
- Shipping, 2007;
- Waste Management Facilities, 2007;
- Water and Sanitation, 2007

2.6 APPLICABILITY OF STANDARDS

The applicability of each of the aforementioned standards is provided for the different project facilities/activities in the matrix below. The applicability of each convention/standard is provided in terms of its direct relevance and whether it is a primary or secondary standard for the Project.

	LNG	Power plant	Airport	MOF	Main seaport	Drill pads	Pipelines	Infrastructure	Workforce	Comment (see foot of table)
National legislation										
All national legislation	●	●	●	●	●	●	●	●	●	
International treaties and conventions										
Espoo	-	-	-	-	-	-	-	-	-	See comment 1
ICAO, 2002	-	-	○	-	-	-	-	-	-	See comment 2
Migratory Species, 1979	●	●	●	●	●AF	●	●	●	-	
Biological diversity, 1992	●	●	●	●	●AF	●	●	●	-	
Ramsar, 1971	-	-	-	-	-	-	-	-	-	See comment 3
CITES, 1973	-	-	-	-	-	-	-	-	●	
UN Convention on Climate Change '92	-	●	-	-	-	-	-	-	-	
Kyoto Protocol, 1997	○	○	○	○	○AF	○	○	○	-	
Vienna Convention (Ozone) 1988	○	○	○	○	○AF	○	○	○	-	
Montreal Protocol, 1989	○	○	○	○	○AF	○	○	○	-	
Basel Convention, 1989	-	-	-	-	-	-	-	○	-	
London Dumping Convention, 1972	-	-	-	-	●AF	-	-	-	-	
Underground Injection Control Program	-	-	-	-	-	●	-	●	-	
Aarhus	○	○	○	○	○AF	○	○	○	-	
Convention on Cultural and Natural Heritage, 1972	●	●	●	●	●AF	●	●	●	●	
ILO conventions	-	-	-	-	-	-	-	-	●	See comment 4

	LNG	Power plant	Airport	MOF	Main seaport	Drill pads	Pipelines	Infrastructure	Workforce	Comment (see foot of table)
MARPOL 73/78	-	-	-	●vc	●AF	-	-	-	-	See comment 5
Civil Liability for Oil Pollution, 1969	-	-	-	○vc	-	-	-	-	-	
Fund for Compensation for Oil Pollution	-	-	-	○vc	●AF	-	-	-	-	
Ships' Ballast Water	-	-	-	○vc	●AF	-	-	-	-	
Anti-fouling Systems on Ships, 2001;	-	-	-	○vc	●AF	-	-	-	-	
1994 (UNCLOS)	-	-	-	●vc	●AF	-	-	-	-	
SOLAS 1974	-	-	-	-	○AF	-	-	-	-	
OPRC 1990	-	-	-	○vc	●AF	-	-	-	-	
Lender Requirements										
OECD Common approaches	●	●	●	●	●AF	●	●	●	-	
Equator Principles, 2006	○	○	○	○	○AF	○	○	○	-	
IFC Performance Standards, 2012	●	●	●	●	●	●	●	●	●	
IFC General EHS Guidelines										
General EHS Guidelines	●	●	●	●	●	●	●	●	-	
Onshore Oil and Gas Development	-	●	-	-	-	●	-	-	-	
Liquefied Natural Gas Development	●	●	-	-	-		○	-	-	
Thermal Power Plant	-	●	-	-	-	-	-	-	-	
Crude Oil and Petroleum Terminals	●	-	-	-	-	-	-	-	-	
Ports, Harbors and Terminals, 2007	-	-	-	○	●AF	-	-	-	-	
Airports	-	-	○	-	-	-	-	-	-	
Shipping	-	-	-	○	○	-	-	-	-	
Waste Management Facilities	-	-	-	-	-	-	-	○	-	

	LNG	Power plant	Airport	MOF	Main seaport	Drill pads	Pipelines	Infrastructure	Workforce	Comment (see foot of table)
Water and Sanitation	-	-	-	-	-	-	-	●	-	

Key

●	of direct relevance and a primary standard for the project
○	secondary standard used to supplement primary standard or of partial relevance
-	expected to be of little or no relevance to the project
AF	Associated Facility (acknowledges limited control and influence over the facility)
VC	relevant to vessels during construction
VO	relevant to vessels during operations

Comments

1. Espoo Convention has not been ratified by the Russian Federation. It is also noted that the will only be relevant if the Project Area Influence as identified in the ESIA extends beyond international boundaries; this is considered to be unlikely.
2. Applicable to civil airports. YLNG project airport will not be a civil airport in the short term.
3. There are no Ramsar (or candidate Ramsar) sites within the Project Area of Influence.
4. ILO conventions 87, 98, 100, 111, 169 and UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families are considered to be most relevant. Others concerning forced and child labour should be considered but are unlikely to be relevant.
5. Shipping conventions apply to vessels involved in the delivery of materials and equipment to the MOF during construction and LNG carriers/condensate tankers during operations and port management. The operational shipping and port management are Associated Facilities/activities. The Ships' Ballast water convention has been ratified by the RF but has not yet entered into force.

2.7 PROJECT NUMERIC STANDARDS

Numeric standards and guidelines applicable to the Project appear in a variety of materials, primarily the Lender Requirements (in particular, the IFC EHS Guidelines) and the Source Documents. These numeric standards and guidelines have been tabulated to compare values for similar topics as they are applied under national jurisdiction and in the Lender requirements. These topics are presented in separate tables (the Project Numeric Standards tables) in Annex A as follows:

Table 1: Environmental Standards for Emissions to the Atmosphere

Table 2: Environmental Standards for Ambient Air

Table 3a: Environmental Standards for Water Quality & Discharges to Water

Table 3b: Drinking Water Standards

Table 4: Environmental Standards for Waste

Table 5: Environmental Standards for Noise Emissions

The Project Numeric Standards tables present a side-by-side comparison of the various standards identified in the source documents for each of the topics. The tables also identify the adopted Project Numeric Standards (to apply across the Project) for each topic, and the rationale for selection thereof (the most stringent standard is selected unless otherwise stated and justified).

ANNEX A:
PROJECT NUMERIC STANDARDS TABLES

Table 1: Environmental Standards for Emissions to the Atmosphere

	National Standards / Requirements	Lender Guidelines / Standards					Adopted Project Standard	Rationale
Topic	**Russia**	**OTHER**	**IFC Environmental, Health, and Safety General Guidelines (or IFC PS)**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**		
Power generation units (>50MWth)	Figures taken from **GOST R 50831-95** "Boiler plants. Heat-mechanical equipment. General technical requirements" NO_x 125 mg/Nm^3	Figures taken from the Basis of Design (based on natural gas fired turbines and IFC guidelines for Thermal Power Plants, and EU BAT Russian standards (expressed as mg/ Nm^3) NOx 51 (DLN applies) CO 100 Dry gas O_2 excess 15% Use of BAT for new gas fired power generation plant (ref. LNGC BOD)	IFC EHS guidelines on Thermal Power Plants detail a series of measures to minimise environmental impact of large power generation units. (expressed as mg/ Nm^3) NO_x 51 Dry gas O_2 excess 15% EU NO_x: 50 (24 ppm), 75 (37 ppm) (if combined cycle efficiency > 55%), 50*η / 35 (where η = simple cycle efficiency) Source : EU (LCP Directive 2001/80/EC October 23 2001) as referenced in IFC Guidelines for Thermal Power Plant	No relevant numeric standard	GHG emissions should be quantified and reported annually Combustion source emissions guidelines associated with steam and power generation activities from sources with a capacity equal to or lower than 50 MWth are addressed in the General EHS Guidelines with larger power source emissions addressed in the EHS Guidelines for Thermal Power. Requires continuous or indicative monitoring if gas turbine exceeds 50MWth.	NA	IFC guidelines for Thermal Power Plants, and EU BAT standards Standards expressed as mg /Nm^3 NO_x 51 (DLN applies) CO 100 Dry gas O_2 excess 15%	Most stringent
Emissions of Ozone Depleting Substances	No relevant numeric standard	Basis of Design general principle is for 'No utilisation of ozone depleting substances (halons, PCBs, CFCs, HCFCs)'	No relevant numeric standard (*Although 'no new systems or processes should be installed using CFCs, halons, 1,1,1-trichloroethane, carbon tetrachloride, methyl bromide or HBFCs*').	No relevant numeric standard.	No relevant numeric standard	Ships should comply with emissions standards for ozone depleting substances described in Annex VI of MARPOL. MARPOL states: Any deliberate emissions of ozone-depleting substances shall be prohibited. New installations which contain ozone-depleting substances shall be prohibited on all ships, except that new installations containing hydrochlorofluorocarbons (HCFCs) are permitted until 1 January 2020.	Consistent with applicable international conventions apply the principle that the will be no utilisation of ozone depleting substances (halons, PCBs, CFCs, HCFCs) and IFC	Good practice

	National Standards / Requirements	Lender Guidelines / Standards					Adopted Project Standard	Rationale
Topic	**Russia**	**OTHER**	**IFC Environmental, Health, and Safety General Guidelines (or IFC PS)**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**		
Onshore incinerator emissions	No relevant numeric standards	Figures in the BOD that are based on EU Directive 2000/76/EC, mg/Nm^3 Dust 10 (daily) SO_2 50 (daily) NO_X 400 (daily) Dioxin/furans 0.1ng TEQ/m^3 Cd 0.05 (30min) Cd 0.1 (8hr) Temperature >850ºC	Adopted from the IFC EHS Guidelines on Waste Management Facilities(which draws from EU Directive 2000/76/EC), mg/m^3: Total Suspended Particulates: 10 (24hr avg.) SO_2: 50 (24hr avg.) NOx: 200-400 (24hr avg.) HCl: 10 Dioxines & Furanes: 0.1ng TEQ/m3 (6-8hr avg.) Cadmium: 0.05-0.1 mg/m^3 (0.5-8hr avg.) Carbon Monoxide: 50-150 mg/m^3 Total metals: 0.5-1 (0.5-8hr avg.) Mercury: 0.05-0.1 (0.5-8hr avg.) Hydrogen Fluoride: 1	No relevant numeric standard.	No relevant numeric standard.	Taken from IFC EHS Waste Management Facilities guidelines mg/m^3 Total Suspended Particulates: 10 (mg/Nm^3) SO2: 50 (daily) NOx: 200-400 (daily) HCl: 10 Dioxin/furans: 0.1 ng TEQ/m3 (6-8 hr.) Cd: 0.05-0.1 (0.5-8 hr) CO: 50-150 Total metals: 0.5-1 (0.5-8 hr) Hg: 0.05-0.1 (0.5-8 hr) HF: 1	IFC Environmental, Health, and Safety General Guidelines, mg/m^3: Total Suspended Particulates: 10 (24hr avg.) SO_2: 50 (24hr avg.) (Note not applicable for gas fired incinerators used at YLNG) NOx: 200-400 mg/m^3 (24hr avg.) HCl: 10mg/m^3 Dioxines & Furanes: 0.1ng TEQ/m3 (6-8hr avg.) Cadmium: 0.05-0.1 mg/m^3 (0.5-8hr avg.) Carbon Monoxide: 50-150 mg/m^3 Total metals: 0.5-1 mg/m^3 (0.5-8hr avg.) Mercury: 0.05-0.1 mg/m^3 (0.5-8hr avg.) Hydrogen Fluoride: 1mg/m^3	Most comprehensive and stringent
GHG emissions	No relevant numeric standard	IFC PS 3, 2012 supersedes 2007 EHS guidance. It requires that for projects that are expect to produce more than 25,000 tonnes CO_2e per annum emissions will be quantified in accordance with internationally recognised methodologies and good practice. IFC EHS guidelines on Thermal Power Plants detail a series of measures to minimise GHG emissions from large power generation		No relevant numeric standard	Significant (>100,000 tons CO_2 equivalent per year) GHG emissions from all facilities and support activities should be quantified annually as aggregate emissions in accordance with internationally recognised methodologies and reporting procedures.	No relevant numeric standard	Numeric standards do not apply. GHG will be quantified and reported annually if >25,000 tonnes CO_2 equivalent per year are expected (as per IFC PS3, 2012)	Most relevant

	National Standards / Requirements	Lender Guidelines / Standards					Adopted Project Standard	Rationale
Topic	**Russia**	**OTHER**	**IFC Environmental, Health, and Safety General Guidelines (or IFC PS)**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**		
		units.						
Ship engine emissions	No numeric standards stated in the source documents. MARPOL requirements should be applied.	Application of MARPOL 73/78 (refer to IFC Guidelines for Shipping column).	No relevant numeric standard.	No relevant numeric standard.	No relevant numeric standard. Common environmental issues related to vessels and shipping, and recommendations for their management are covered in the IFC EHS Guidelines for Shipping.	MARPOL[6]: NO_x limits: 17.0 g/kWh when n[7] is less than 130 rpm; 45.0 x $n^{-0.2}$ g/kWh when *n* is 130 or more but less than 2000 rpm; 9.8 g/kWh when *n* is 2000 rpm or more. Sulphur: Sulphur content of fuel limits (see separate row further below for fuel specification standards) or emission abatement equipment producing output of <6.0 g/kWh (calculated as total SO_2) VOC: VOCs emissions from tankers to be regulated in ports and/or terminals under the Government of each Party to the Protocol of 1997.	MARPOL requirements should be applied. NO_x limits: 17.0 g/kWh when n is less than 130 rpm; 45.0 x $n^{-0.2}$ g/kWh when *n* is 130 or more but less than 2000 rpm; 9.8 g/kWh when *n* is 2000 rpm or more. Sulphur: Sulphur content of fuel limits (see below for fuel specification standards) or emission abatement equipment producing output of <6.0 g/kWh (calculated as total SO_2) VOC: VOCs emissions from tankers to be regulated in ports and/or terminals under the Government of each Party to the Protocol of 1997.	Most relevant
Shipboard incinerator emissions	No relevant numeric standards. MARPOL requirements should be applied	MARPOL Annex VI Regulation 16 – Shipboard incineration specifies certain restrictions. Incineration of Annex I, II and III cargo residues, of PCBs (Polychlorinated biphenyls),of garbage containing more than traces of heavy metals and of refined petroleum products containing halogen compounds is always prohibited. Onboard incineration outside an incinerator is prohibited except that sewage sludge and sludge oil from oil separators	No relevant numeric standard.	No relevant numeric standard.	No relevant numeric standard.	IFC specifies a combustion temperature of >850°C and other operational controls. Use of flue gas cleaning devices that comply with MARPOL Annex VI and Article 5 and Annex C of the Stockholm Convention on Persistent Organic Pollutants, Section V.	MARPOL Annex VI Regulation 16 – Shipboard incineration specifies certain restrictions. Incineration of Annex I, II and III cargo residues, of PCBs (Polychlorinated biphenyls),of garbage containing more than traces of heavy metals and of refined petroleum products containing halogen compounds is always prohibited. Onboard incineration	Most stringent

[6] Applies to each diesel engine with a power output of more than 130 kW which is installed on a ship constructed on or after 1 January 2000; and each diesel engine with a power output of more than 130 kW which undergoes a major conversion on or after 1 January 2000. Does not apply to emergency diesel engines, engines installed in lifeboats and any device or equipment intended to be used solely in case of emergency.
[7] *n* = rated engine speed (crankshaft revolutions per minute)

	National Standards / Requirements	Lender Guidelines / Standards					Adopted Project Standard	Rationale
Topic	**Russia**	**OTHER**	**IFC Environmental, Health, and Safety General Guidelines (or IFC PS)**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**		
		may be incinerated in the main or auxiliary power plants and boilers when the ship is not in ports, harbours and estuaries. Incineration of PVC's (polyvinyl chlorides) is prohibited except in shipboard incinerators type approved according to resolutions MEPC 59(33) or MEPC 76(40). A combustion temperature of >850^{o}C is required.					outside an incinerator is prohibited except that sewage sludge and sludge oil from oil separators may be incinerated in the main or auxiliary power plants and boilers when the ship is not in ports, harbours and estuaries. Incineration of PVC's (polyvinyl chlorides) is prohibited except in shipboard incinerators type approved according to resolutions MEPC 59(33) or MEPC 76(40). A combustion temperature of >850^{o}C is required.	
Sulphur emissions (Content of fuel oil in marine vessel)	No numeric standards stated in the source documents. For marine bunker fuel oil and heating oil (GOST 10585-99. Oil fuel. Mazut. Specifications) Mass fraction of sulphur is varying from 0.5 % (for marine bunker fuel oils) to 3.5 % (heating oils).	NA	No relevant numeric standard.	No relevant numeric standard.	No relevant numeric standard	Fuel oil used in Project vessels will have a sulphur content that is less than 1.5 % m/m as per MARPOL 93/97 Annex VI, Regulation 14.	Russian standards for fuel oil Sulphur content 0.5 % or less (for marine bunker fuel oils)	Most stringent

Table 2: Environmental Standards for Ambient Air

	National Standards / Requirements	Lender Guidelines / Standards					
Topic	**Russia**	**OTHER**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**Adopted Project Standard (mg/m^3)**	**Rationale**
Air Quality - Human population protection **(at receptors)**	GN 2.1.6.1338-03 for Sanitary protection zone (mg/m^3) CO 5 (20min) CO 3 (24 h) H_2S 0.008 (20min) NO_2 0.2 (20 min) NO_2 0.04 (24h) NO 0.4 (20 min) NO 0.06 (24h) SO_2 0.5 (20 min) SO_2 0.05 (24h) Alkanes (C_{12}-C_{19}) 1 (20min) Pentane 100 (20min) Pentane 25 (24h) Hexane 60 (20min) Benzene 0.3 (20min) Benzene 0.1 (24h) Benzene 0.005 (1yr) Toluene 0.6 (20min) Xylene 0.2 (20min) Ozone 0.16 (20min) Ozone 0.03 (24h) PM_{10} 0.3 (20min) PM_{10} 0.06 (24h) PM_{10} 0.04 (1yr) $PM_{2.5}$ 0.16 (20min) $PM_{2.5}$ 0.035 (24h)	Note. Basis of Design limits for border of SPZ (µg/m^3) are the same as presented in national Standards column. UK guidance EH-40: HCl: 8mg/m^3 (15 min) HCl: 2mg/m^3 (8hr) HFl: 2.5 mg/m^3 (15 min) HFl: 1,5mg/m^3 (8hr) H_2S 150 µg/m^3 (24h)	Where set, national air quality standards apply. If no national standards are set then apply WHO standards WHO guidelines, µg/m^3: $PM_{2.5}$ 10 (1 yr) $PM_{2.5}$ 25 (24 h) PM_{10} 20 (1 yr) PM_{10} 50 (24 h) Ozone 100 (8 h) NO_2 40 (1 yr) NO_2 200 (1 hr) SO_2 20 (24 h) SO_2 500 (10 min)	Emission concentrations as per General EHS Guidelines, and: H_2S: 5 mg/Nm^3	No relevant numeric standard.	Russian standards (mg/m^3) supplemented by EU and WHO (highlighted by blue) CO 5 (20min) CO 3 (24 h) H_2S 0.008 (20min) H_2S 0.15 (24h) NO_2 0.2 (20 min) NO_2 0.04 (24h) NO_2 0.04 (1 y) NO 0.4 (20 min) NO 0.06 (24h) SO_2 0.5 (10 min) SO_2 0.02 (24h) Alkane (C_{12}-C_{19}) 1 (20min) Pentane 100 (20min) Pentane 25 (24h) Hexane 60 (20min) Benzene 0.3 (20min) Benzene 0.1 (24h) Benzene 0.005 (1yr) Toluene 0.6 (20min) Xylene 0.2 (20min) Ozone 0.16 (20min) Ozone 0.1 (8h) Ozone 0.03 (24h) PM_{10} 0.3 (20min) PM_{10} 0.05 (24h)	Russian standards supplemented by EU/WHO where necessary to achieve most stringent suite.[9]

[8] GN 2.1.6.2604-10

[9] The IFC cites WHO ambient air quality guidelines typically apply only in jurisdictions where there are no national standards in place. National standards exist, but nevertheless WHO guidelines have been adopted where these are more stringent than national standards. EU Ambient Air Quality standards are a requirement of the EBRD

	National Standards / Requirements	Lender Guidelines / Standards					
Topic	**Russia**	**OTHER**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**Adopted Project Standard (mg/m^3)**	**Rationale**
	$PM_{2.5}$ 0.025 (1yr)					PM_{10} 0.02 (1yr) $PM_{2.5}$ 0.16 (20min) $PM_{2.5}$ 0.035 (24h) $PM_{2.5}$ 0.025 (1yr) HCl: 8mg/m^3 (15 min) HCl: 2mg/m^3 (8hr) HFl: 2.5 mg/m^3 (15 min) HFl: 1,5mg/m^3 (8hr)	
Air Quality – protection of vegetation (at sensitive receptors)	No relevant numeric standard	WHO : SO_2 10 µg/m^3 (annual average - lichen) EU Directive SO_2 8 - 12µg/m^3 (winter critical load) NO_x 19.5 – 24 µg/m^3 (annual load) (Ref. EU Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe) Nitrogen deposition: 3 to 15 kg/N/ha/yr	No relevant numeric standard	No relevant numeric standard	No relevant numeric standard	WHO : SO_2 10 µg/m^3 (annual average - lichen) NO_x 19.5 - 24 µg/m (annual average) Nitrogen deposition: 3 to 15 kg/N/ha/yr	Only relevant standards

10 Review and revision of empirical critical loads and dose-response relationships, Coordination Centre for Effects, 2010

11 APIS indicative critical load values: Recommended values within nutrient nitrogen critical load ranges for use in air pollution impact assessments (http://www.apis.ac.uk/indicative-critical-load-values)

Table 3a: Environmental Standards for Water Quality & Discharges to Water [12]

	National Standards / Requirements	Lender Guidelines / Standards					Adopted Project Standard	Rationale
Topic	**Russia**	**Other**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**		
Discharge to surface water: **Effluent water (including power plant effluents)**	List of MPC for fishery water bodies (mg/l) SS background +0.25 10 in marine water BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr^{+6}) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 End of pipe effluent temperature to be not more than 5^0C above the receiving water body temperature. Absolute temperature of receiving water body not to increase above	Values are end-of-pipe discharge standards for urban waste water.	Temperature of wastewater prior to discharge does not result in an increase greater than 3°C of ambient temperature at the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use and assimilative capacity among other considerations.	The Onshore Oil and Gas Guidelines reference IFC Effluent Guidelines for Thermal Power which has the following standards (mg/l except pH) pH 6 – 9 TSS 50 Oil and grease 10 Total residual Chlorine 0.2 Chromium – Total (Cr) 0.5 Copper (Cu) 0.5 Iron (Fe) 1.0 Zinc (Zn) 1.0 Lead (Pb) 0.5 Cadmium (Cd) 0.1 Mercury (Hg) 0.005 Arsenic (As) 0.5	The effluent should result in a temperature increase of no more than 3° C at edge of the zone where initial mixing and dilution take place.	No relevant numeric standard	Russian standards, mg/l: SS background +0.25 10 in marine water BOD. 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 End of pipe effluent temperature to be not more than 5^0C above the receiving water body temperature.	Most stringent MPC for fishery water bodies selected as most stringent standard based on the prevalence of fish bearing water bodies, although some discharges will be to non-fish supporting surface water bodies.

[12] For drinking water see Table 3b.

	National Standards / Requirements	Lender Guidelines / Standards						
Topic	**Russia**	**Other**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**	**Adopted Project Standard**	**Rationale**
	20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters. Summer water temperature should not rise by more than 3°C in comparison with an average temperature of the hottest month in the last 10 years						Absolute temperature of receiving water body not to increase above 20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters. Summer water temperature should not rise by more than 3°C in comparison with an average temperature of the hottest month in the last 10 years	
Onshore water discharge: **Sewage water**	List of MPC for fishery water bodies (mg/l) SS background +0.25 10 in marine water BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02	EU Urban Waste Water Directive (91/271/EEC as amended) BOD 25 mg/l COD 125 mg/l Total nitrogen10 mg/l Total phosphorus2 mg/l Total suspended solids 35 mg/l Values are end-of-pipe discharge standards for urban waste water.	pH 6 – 9 BOD mg/l 30 COD mg/l 125 Total nitrogen mg/l 10 Total phosphorus 2 mg/l Oil and grease 10 mg/l Total suspended solids 50 mg/l Total coliform bacteria 400 MPN/ 100 ml Temperature increase <3^oC at 100m or edge of mixing zone. Values are end-of-pipe standards for discharge to surface waters.	No relevant numeric standard.	Treatment as per guidance in the General EHS Guidelines, including discharge requirements. Provision of facilities to receive LNG tanker effluents may be required (see EHS Guidelines for Ports and Harbours).	Use and operation of a certified on-board sewage treatment system, as applicable according to international standards (Annex IV of MARPOL 73/78).	Russian standards supplemented by IFC general guidelines (highlighted by blue) List of MPC for fishery water bodies (mg/l) SS background +0.25 10 in marine water BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08	Most stringent

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	National Standards / Requirements	Lender Guidelines / Standards						
Topic	**Russia**	**Other**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**	**Adopted Project Standard**	**Rationale**
	Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 End of pipe effluent temperature to be not more than 5^0C above the receiving water body temperature. Absolute temperature of receiving water body not to increase above 20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters.						Mercury (Hg) (absence) Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 End of pipe effluent temperature to be not more than 5^0C above the receiving water body temperature. Absolute temperature of receiving water body not to increase above 20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters. Total coliform bacteria 400 MPN/ 100 ml Total nitrogen 10mg/l Total phosphorus 2mg/l	
Hydrotest water discharge	List of MPC for fishery water bodies (mg/l) SS background +0.25 10 in marine water BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120	NA	No relevant numeric standard	For discharge to surface waters or to land, end-of-pipe standards are: Total hydrocarbon content: 10 mg/l pH: 6 - 9 BOD: 25 mg/l COD: 125 mg/l TSS: 35 mg/l Phenols: 0.5 mg/l Sulfides: 1 mg/l Heavy metals (total): 5 mg/l Chlorides: 600 mg/l (average), 1200 mg/l (maximum)	For discharge to surface waters or to land, end-of-pipe standards are : Total hydrocarbon content: 10 mg/l pH: 6 - 9 BOD: 25 mg/l COD: 125 mg/l TSS: 35 mg/l Phenols: 0.5 mg/l Sulfides: 1 mg/l Heavy metals (total): 5 mg/l Chlorides: 600 mg/l (average), 1200 mg/l (maximum)	No relevant numeric standard.	Russian standards + some IFC LNG List of MPC for fishery water bodies (mg/l) SS background +0.25 10 in marine water BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005	Most stringent. Russian standards supplemented with IFC guidelines in the case of chlorides and where equivalent Russian parameters are not specified.

	National Standards / Requirements	Lender Guidelines / Standards						
Topic	**Russia**	**Other**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**	**Adopted Project Standard**	**Rationale**
	Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 End of pipe effluent temperature to be not more than 5^0C above the receiving water body temperature. Absolute temperature of receiving water body not to increase above 20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters.						Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 End of pipe effluent temperature to be not more than 5^0C above the receiving water body temperature. Absolute temperature of receiving water body not to increase above 20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters. Chlorides: 600 mg/l (average), 1200 mg/l (maximum) applicable if saline water used for hydrotesting Phenols: 0.5 mg/l Sulfides: 1 mg/l	
Water Discharge to sea from ships: **Oil**	Oil 0.05 mg/l	NA	No relevant numeric standard (for ship discharges)	No relevant numeric standard	No relevant numeric standard	All bilge water and sludge should be discharged to port reception facilities, except where ships are equipped with certified oily water separators (OWS), which may discharge treated water to sea in accordance with MARPOL 73/78 provisions. Outside special areas, and	Oil 0.05 mg/l	Russian standard is most stringent

	National Standards / Requirements	Lender Guidelines / Standards						
Topic	**Russia**	**Other**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**	**Adopted Project Standard**	**Rationale**
						whilst en route, vessels can discharge an oil content of <15ppm (without dilution). Note. Conditions apply and reference should be made to MARPOL 73/78		
Water discharge to sea from ships: **Sewage water**	List of MPC for fishery water bodies (mg/l) SS background +0.25 10 in marine water BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05	NA	As per IFC LNG guidelines, the numeric standard for sewage discharges detailed in the general guidelines apply: pH:6-9 BOD: 30mg/l COD: 125 mg/l Total Nitrogen: 10 mg/l Total Phosphorus: 2 mg/l Oil & Grease: 10 mg/l Total suspended solids: 50 mg/l Total coliform bacteria: 400/100 ml	No relevant numeric standard (for ship discharges)	Treatment as per guidance in the General EHS Guidelines, including discharge requirements. Provision of facilities to receive LNG tanker effluents may be required (see EHS Guidelines for Ports and Harbours).	Ships should comply with effluent standards for oil / grease and sewage as described in Annex I and IV of MARPOL. MARPOL Annex I: In case of discharge into the sea the oil content of the effluent without dilution must not exceed 15 parts per million. MARPOL Annex IV applies restrictions on sewage treatment facilities and when/where treated sewage can be discharged Standards for sewage treatment to be achieved under testing are: TSS: 35mg/l (above TSS content of flushing water) Coliform: 100/100ml BOD_5: 25mg/l COD: 125mg/l pH: 6 – 8.5	Russian standards supplemented by MARPOL (highlighted by blue) SS background +0.25 10 in marine water BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 (11900 at 12-18‰) Sulphates 100 (3500 at 12-18‰) Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 Coliform: 100/100ml pH: 6 – 8.5	Russian standards generally most stringent. Supplemented by MARPOL where parameters are additional to those specified by Russian standards.

	National Standards / Requirements	Lender Guidelines / Standards						
Topic	**Russia**	**Other**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**	**Adopted Project Standard**	**Rationale**
Water Quality - freshwater	List of MPC for fishery water bodies (mg/l) SS background +0.25 BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 Sulphates 100 Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 Absolute temperature of receiving water body not to increase above 20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters.	The European Communities Directive 78/659/EEC (the Directive): Total residual chlorine 0.005 mg/l.	No numeric standards	No numeric standards	No numeric standards	No numeric standards	Russian standards supplemented with EU (mg/l) SS background +0.25 BOD full 3 mgO_2/l COD 15 pH 6.5 – 8.5 Mineralisation 1000 Chlorides 300 Sulphates 100 Ammonium 0.5 Iron (Fe) 0.1 Cadmium (Cd) 0.005 Cobalt (Co) 0.01 Copper (Cu) 0.001 Sodium (Na) 120 Nitrate (NO_3) 40 Nitrite (NO_2) 0.08 Mercury (Hg) absence Nickel (Ni) 0.01 Lead (Pb) 0.006 Zinc (Zn) 0.01 Chromium (Cr+6) 0.02 Methanol 0.1 Ethylbenzene 0.001 Oil 0.05 Absolute temperature of receiving water body not to increase above 20^0C in summer and 5^0C in winter for salmonid waters and not more than 28^0C in summer and 8^0C in winter for other waters. Total residual chlorine 0.005mg/l.	Russian standard is most stringent

Table 3b: Drinking Water Standards

The project has set numeric standards for the following waters:

Parameter	Units	RF Standard[5)]	WHO Standard	Project Standard [14] (mg/l unless stated otherwise)	
Physical Quality					
pH	---	6-9	6–9	RF	6-9
Total Dissolved Solids	mg/l	1000 (1500)*	---	RF	1000 (1500)*
Hardness	Mg-eqv/l	7.0 (10)*	---	RF	7.0 (10)* Mg-eqv/
Turbidity	EMF (formasine) or mg/l (caoline)	2,6 (3,5)* 1,5 (2)*	---	RF	2,6 (3,5)* 1,5 (2)*
Taste	Score	2	---	RF	2
Odour	Score	2	---	RF	2
Colour	degree	20 (35)*	---	RF	20 (35)*
Microbial Quality					
Total Coliform	Coli / ml	Not detectable in any 100ml sample	---	RF	Not detectable in any 100ml sample
E.Coli or Thermotolerant Coliform Bacteria	E.Coli / 100ml	Not detectable in any 100ml sample	Not detectable in any 100ml sample	RF	Not detectable in any 100ml sample
Inorganic Chemical Quality					
Aluminium (Al)	mg/l	0.5	---	RF	0.5

[14] Project standard represents most stringent for each parameter

Parameter	Units	RF Standard[5)]	WHO Standard	Project Standard [14] (mg/l unless stated otherwise)	
Ammonium ion (NH_4)	mg/l	2.0	---	RF	2.0
Antimony (Sb)	mg/l	0.05	0.02	WHO	0.02
Arsenic (As)	mg/l	0.05	0.01	WHO	0.01
Barium (Ba)	mg/l	0.1	0.7	RF	0.1
Beryllium (Be)	mg/l	0.0002	---	RF	0.0002
Boron (B)	mg/l	0.5	0.5	RF	0.5
Cadmium (Cd)	mg/l	0.001	0.003	RF	0.001
Calcium ion (Ca^{2+})	mg/l		---	NA	
Chloride ion (Cl^-)	mg/l	350	---	RF	350
Chlorine (Cl)	mg/l	0.3-0.5 (free) 0.8-1.2 (bounded	5	RF	0.3-0.5 (free) 0.8-1.2 (bounded)
Chromium (Cr^{+6}) (Cr^{+3})	mg/l	0.05 0.5	0.05	RF	0.05 0.5
Copper (Cu)	mg/l	1.0	2	RF	1.0
Cyanide (CN)	mg/l	0.035	0.07	RF	0.035
Fluoride ion ($F^=$)	mg/l	1.5 (1.2)**	1.5	RF	1.5 (1.2)**
Hydrogen Sulphide (H_2S)	mg/l	0.003	---	RF	0.003
Iron (Fe)	mg/l	0.3 (1.0)*	---	RF	0.3
Lead (Pb)	mg/l	0.3	0.02	WHO	0.02
Manganese (Mn)	mg/l	0.1 (0.5)*	0.4	RF	0.1
Mercury (Hg)	mg/l	0.0005	0.001	RF	0.0005
Molybdenum (Mo)	mg/l	0.25	0.07	RF	0.25
Nickel (Ni) Nitrate ion (as NO_3^-) Nitrite ion (as NO_2^-)	mg/l mg/l mg/l	0.1 45 3.0	0.02 50 3 or 0.2	WHO RF RF	0.02 45 3.0
Phosphate ion (PO_4^{2+})	mg/l		---		
Selenium (Se)	mg/l	0.1	0.01	WHO	0.01

Parameter	Units	RF Standard[5)]	WHO Standard	Project Standard [14] (mg/l unless stated otherwise)	
Silver (Ag)	mg/l	0.05	---	RF	0.05
Sodium (Na) Sulphate ion (SO_4^{2+})	mg/l mg/l	200 500	--- ---	RF EU	200 250
Strontium (Sr)	mg/l	7.0	---	RF	7.0
Uranium (U)	mg/l		0.015	WHO	0.015
Vinyl Chloride (C_2H_3Cl / H_2C)	mg/l	0.05	0.0003	WHO	0.0003
Zinc (Zn)	mg/l	5.0	---	RF	5.0
Radiological Quality					
Total α radioactivity	Bq/l	0.1	0.5	RF	0.1
Total β radioactivity	Bq/l	1.0	1	RF	1.0

Note:

1. This table shows upper limit values, unless indicated otherwise as a range or lower limit value.
2. This table does not include organic chemicals, detergents, pesticides or disinfection by-products. Refer to WHO Guidelines for Drinking Water Quality for Chemical Lists and Guideline Values, the most stringent of which will also form the project standard.
3. Sanitary Rules and Norms SanPiN 2.1.4.1074-01 Drinking water. Hygienic Requirements to Quality
4. *) can be set up of definite region
5. **) – for climatic region III

Table 4: Environmental Standards for Waste

	National Standards / Requirements	Lender Guidelines / Standards					Adopted Project Standard	Rationale
Topic	**Russia**	**Other**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**	**IFC Environmental, Health, and Safety Guidelines for Shipping**		
Waste treatment and disposal (onshore)	No numeric standards stated in the source documents. All waste produced must be handled and disposed of in accordance with federal law on waste of production and consumption.	.	No relevant numeric standard. Treatment or disposal at permitted facilities specially designed to receive the waste. IFC EHS Guidelines for Waste Management Facilities details effluent standards for Landfills in the US	No relevant numeric standard.	No relevant numeric standard	No relevant numeric standard. (IMO) Comprehensive Manual on Port Reception Facilities.	All waste produced must be handled and disposed of in accordance with federal law on waste of production and consumption.	
Secondary containment of liquid wastes (onshore)	No numeric standards stated in the source documents. No numeric standards stated in Russian legislation.	Thermal Power Plant guidelines reference the General EHS Guidelines. They also give some specific measures to prevent, minimise and control liquid wastes from thermal power plants.	Secondary containment (SC) is included wherever liquid wastes are stored in volumes greater than 220 litres. The available volume of SC should be at least 110% of the largest storage container, or 25% of the total storage capacity (whichever is greater).	No relevant numeric standard.	No relevant numeric standard	No relevant numeric standard.	IFC Environmental, Health, and Safety General Guidelines Secondary containment (SC) is included wherever liquid wastes are stored in volumes greater than 220 litres. The available volume of SC should be at least 110% of the largest storage container, or 25% of the total storage capacity (whichever is greater).	Only relevant standard
Waste Disposal from Ships including bilge sludge	No numeric standards stated in the source documents. No numeric standards stated in Russian legislation. Application of MARPOL 73/78 (no numeric standards stated in MARPOL for seaside waste)	NA	No relevant numeric standard.	No relevant numeric standard.	No relevant numeric standard.	Application of MARPOL 73/78 (e.g. Annex V).	Application of MARPOL 73/78 (e.g. Annex V) Ship wastes will be shipped to shore. No overboard discharge except food wastes in line with MARPOL 73/78. (resolution MEPC.201(62)) which will enter into force on 1 January 2013) Comminuted - 3mm from shore Non comminuted - 12 mm from shore	Only relevant standard

Table 5: Environmental Standards for Noise Emissions

	National Standards / Requirements	Lender Guidelines / Standards				Adopted Project Standard	Rationale
Topic	**Russia**	**OTHER**	**IFC Environmental, Health, and Safety General Guidelines**	**IFC Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development**	**IFC Environmental, Health, and Safety Guidelines for LNG Development**		
Night time noise limits for human protection	Noise emissions at the night time (23:00-07:00) should not exceed the following levels (SN 2.2.4/2.1.8.562-96, п.5.3.1.): • In residential and public buildings: – Hospitals, health centres with recreation areas: 25 dB(A); – Residential rooms: 30 dB(A); – Rooms in hotels and hostels; Territory directly surrounding hospital buildings and health centres, with their recreation areas: 35 dB(A); – Territory directly surrounding residential, clinics, rest homes, homes for the elderly and disabled, educational institutions, libraries; Recreation areas within the territory of residential, rest homes, houses for the elderly and disabled, children's playgrounds, schools and other educational institutions: 45 dB(A); – Halls of cafes, restaurants, eating rooms: 55 dB(A); – Shops trade halls, passenger halls in airports and stations, consumer services centres: 60 dB(A); Sound levels for the major types of work and workplaces are the same as for the daytime (see below).	NA	Noise emissions should not exceed the following levels or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site: Residential; institutional, educational: Night time (22:00-07:00): 45 dB(A) Industrial, commercial.: Night time (22:00-07:00): 70 dB(A)	No relevant numeric standard.	Refers to General EHS Guidelines.	Russian standards apply with night time defined as 22:00 – 07:00 in line with IFC EHS General Guidelines.	Most stringent and provides more comprehensive measurement criteria
Day time noise limits for human protection	Noise emissions at the daytime (07:00-23:00) should not exceed in residential and public buildings: - 55 dB(A) and 45 dB(A) at night in office buildings – 60 dB(A), in production facilities – 80 dB(A) (SANPiN 2.1.2.2645-10, par. 6.2.1).	NA	Noise emissions should not exceed the following levels or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site: Residential.; institutional., educational.: Daytime (07:00-22:00): 55 dB(A) Industrial, commercial: Night time (22:00-07:00): 70 dB(A)	No relevant numeric standard.	Refers to General EHS Guidelines.	Russian standards with daytime defined as 07:00 – 22:00 in line with IFC EHS General guidelines.	Most stringent and provides more comprehensive measurement criteria

Other Standards

Soil quality

Contamination of soils should be managed in accordance with good international industry practice. Contaminated land will therefore be managed in accordance with Section 1.8 of the IFC General EHS Guidelines which states '*Contaminated lands should be managed to avoid the risk to human health and ecological receptors. The preferred strategy for land decontamination is to reduce the level of contamination at the site while preventing the human exposure to contamination.'* The need for intervention will be determined using a risk based source-pathway-receptor approach. Where necessary risk based guidelines will be used to screen concentrations of pollutants in soil.

Social and employee conditions

The following standards relate to workers accommodation and working conditions and will be applied by the Project.

Worker accommodation standards

The worker accommodation camp will be designed to Russian Federation standards. The design for the camp will be optimised to meet the remote location and extreme climatic conditions prevalent at the Project location. In addition, consideration will be given to the IFC Worker Accommodation Standards to the extent that they are appropriate and practicable to Project location.

Minimum Age of Employment (as per the ILO Convention No. 138)

The minimum age for admission to employment or work in any occupation shall not be less than the age of completion of compulsory schooling and, in any case, shall not be less than 15 years.

The minimum age for admission to any type of employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardise the health, safety or morals of young persons shall not be less than 18 years.

Minimum Age of Employment (as per the IFC Performance Standard 2 'Labour & Working Conditions')

The client will identify the presence of all persons under the age of 18. Where national laws have provisions for the employment of minors, the client will follow those laws applicable to the client. Children under the age of 18 will not be employed in hazardous work. All work of persons under the age of 18 will be subject to an appropriate risk assessment and regular monitoring of health, working conditions, and hours of work.

ANNEX B:

LIST OF KEY NATIONAL LEGISLATION

1. Constitution of the Russian Federation of 12.12.1993.
2. RF Law On Environmental Protection 7-FZ of 10.01.2002 (as revised on 12.03.2014).
3. Federal Law of 27.12.2002 #184-FZ «On Technical Regulations» (as revised on 23.06.2014)
4. Federal Law of 21.02.1992 # 2395-1 «On Subsoil Resources» (as revised on 28.12.2013)
5. Federal Law of 04.05.2011 # 99-FZ «On Certain Activities' Licensing» (as revised on 02.07.2013)
6. Federal Law of 23.11.1995 #174-FZ «On Environmental Review» (as revised on 28.12.2013)
7. Federal Law of 21.12.2004 # 172-FZ «On lands' or land plots' reclassification» (as revised on 06.07.2013)
8. Federal Law of 07.12.2011 # 416-FZ «On Water Supply and Wastewater Discharge» (as revised on 23.06.2014)
9. RF Forest Code (Federal Law of 04.12.2006 #200-FZ) (as revised on 12.03.2014)
10. RF Labor Code (Federal Law of 30.12.2001 # 197-FZ) (as revised on 02.04.2014) (as re
11. Federal Law of 25.06.2002 # 73-FZ «On Cultural Heritage (cultural sites) of the Peoples of the Russian Federation» (as revised on 23.07.2013)
12. Federal Law of 21.12.1994 # 69-FZ «On Fire Safety» (as revised on 12.03.2014)
13. Federal Law of 27.07.2010 # 225-FZ «On mandatory insurance of civil liability of a hazardous facility's owner for bringing harm as a result of an emergency at hazardous production facility» (as revised on 27.07.2010)
14. Federal Law of 09.01.1996 # 3-FZ «On Radiation Safety of population» (as revised on 19.07.2011)RF Urban Development Code 190-FZ of 29.12.2004 (as revised on 05.05.2014).
15. RF Land Code, Federal Law 136-FZ of 25.10.2001 (as revised on 28.12.2013).
16. Federal Law on Industrial and Household Waste Handling 89-FZ of 24.06.1998 (as revised on 25.11.2013).
17. Russian Federation Water Code 74-FZ 03.06.2006 (as revised on 28.12.2013).
18. "On Inland Sea Waters, Territorial Seas, and the Adjacent Zone of the Russian Federation," Federal Law 155-FZ of 7/31/1998, as amended through 03.02.2014
19. "On the Continental Shelf of the Russian Federation" dated 30.11.1995 N 187-ФЗ (as revised on 03.02.2014)
20. Federal Law On Air Protection 96-FZ 04.05.1999 (as revised on 23.07.2013).
21. Federal Law On Animals 52-FZ 24.04.1995 (as revised on 07.05.2013).

22. Federal Law On Fishery and the Preservation of Water Biological Resources 166-FZ of 20.12.2004 (as revised on 12.03.2014).

23. Federal Law On Specially Protected Natural Areas 33-FZ 14 March 1995 (as revised on 12.03.2014).

24. Federal Law On Guaranteed Rights of Low Numbered Indigenous Peoples of the Russian Federation 82-FZ 30.04.1999 (as revised on 05.04.2009).

25. Federal Law On Traditional Use of Nature Areas of Low Numbered Indigenous Peoples of the North, Siberia, and Far East of the Russian Federation 49-FZ of 07.05.2001 (as revised on 28.12.2013).

26. Federal Law On Protection of the Public and Areas from Natural Disasters and Technogenic Catastrophes 68-FZ of 21.12.1994 (as revised on 28.12.2013).

27. Federal Law On Industrial Safety of Production Sites and Projects 116-FZ of 21.07.1997 (as revised on 02.07.2013).

28. Federal Law Building and Structure Safety Technical Standard 384-FZ of 30.12.2009 (as revised on 02.07.2013)

29. Federal Law On Public Sanitation and Epidemiology Welfare 52-FZ of 30.03.1999 (as revised on 25.11.2013).

30. RF Government Resolution of 05.03.2007. #145 «On organizing and conducting the state expert review of design documentation and engineering surveys' findings» (as revised on 22.03.2014)

31. RF Government Resolution of 07.05.2003 . # 262 «On adoption of Rules for compensation to owners of land plots, land users and tenants of land plots for damage caused by withdrawal or temporary occupation of land plots, limitation of land owners' rights or by worsening land quality as a result of other persons' activities»

32. RF Government Resolution of 23.02.1994 . # 140 "On land reclamation, removal, storage and sustainable use of the fertile top soil".

33. RF Government Resolution of 30.12.2006 . # 844 «On Procedure for drafting and making a decision on a water body's allocation for use» (as revised on 15.05.2014)

34. RF Government Resolution of 12.03.2008 # 165. «On Water Use Agreement Preparation and Conclusion» (as revised on 23.05.2013)

35. RF Government Resolution of 23.07.2007 . # 469 «On procedure for adoption of permissible standards of substances' and microorganisms' discharge into water bodies for users of the water bodies» (as revised on 08.06.2011)

36. RF Government Resolution of 30.04.2013. # 384 «On adoption of Rules for the Federal Fishery Agency's (its branches') Approval of construction and upgrade of capital facilities, introduction of new technological processes and implementation of other activities that impact on water biological resources and their habitats"

37. RF Government Resolution of 02.03.2000 . # 183 «On Maximum Permissible Emissions into the Atmospheric Air and Adverse Physical Impacts» (as revised on 05/06/2013)

38. RF Government Resolution of 19.02.1996. # 158 «On Red Data Book of the Russian Federation»

39. RF Government Decree of 08.05.2009. # 631-r «On approval of List of traditional living areas and traditional commercial activities of low-numbered peoples of the RF and List of their traditional commercial activities »13.08.1996 RF Government Directive 997 On endorsing Regulations on the prevention of killing animals due to industrial processes, and due to transport link, pipeline, communications line and power transfer line operations (with amendments of 13.03.2008).

40. 21.08.2000 RF Government Directive 613 On urgent accident-related oil spill response measures in the Russian Federation (as revised on 15.04.2002)

41. 15.04.2002 RF Government Directive 240 On Procedure for Oil Spill Prevention and Response Measures in the Russian Federation.

42. 16.02.2008 RF Government Directive 87 (as revised on 26.03.2014) On the structure of project documentation and its contents.

43. 6.10.2008 RF Government Directive 743 On Endorsing the Fishery Protection Zone Rules.

44. 31.03.2009 RF Government Directive 285 On the List of Objects that are Subject to Federal State Environmental Monitoring.

45. Demarcation rules for water protection zones and near-bank protection strips of bodies of surface water. Endorsed by 10.01.2009 Russian Federation Government Directive # 17.

46. Russian Federation Government Directive of 29.04.2013 # 380 «On endorsement of Regulation on measures for conservation of aquatic biological resources and their habitats»

47. Russian Federation Government Directive 1662-p of 17.11.2008 on endorsing the Strategy of Long-Term Social and Economic Development of the Russian Federation until 2020 (as revised on 08.08.2009)

48. 17.11.2008 Russian Federation Government Directive 1663-p on endorsing the RF Government Principal Guidelines until 2012 (as revised on 14.12.2009)

49. 13.11.2009 RF Government Directive 1715-p On endorsing Power Strategy of Russia until 2030 (as revised on 14.12.2009)

50. Order by MinPrirody RF and RosComZem 22.12.1995 # 525/67 «On adoption of the Basic Provisions on land reclamation, soil removal, conservation and efficient use of fertile soil layer».

51. Order by MinPrirody RF of 25.02.2010 # 50 «On Procedure for development and adoption of standards for waste generation and limits of their disposal» (as revised on 22.10.2010).

52. Federal Classificatory Catalogue of Wastes; Adopted by Order by the RF Ministry of Natural Resources of 02.12.2002 # 786 (as revised on 30.07.2003).

53. Order by the RF Ministry of Natural Resources and Ecology of 17.12.2007 #333 «On adoption of Methods for developing permissible standards of substances' and microorganisms' discharge into water bodies for users of the water bodies».

54. Order by the RF Ministry of Natural Resources and Ecology of 25.07.2011. # 650 «On Adoption of the Administrative Regulation by the Federal Service for Nature Management Supervision for provision of the state service to issue permits for harmful (polluting substances' emissions into the atmospheric air (with exception of radioactive substances)»

55. Order by the RF Ministry of Natural Resources and Ecology of 31.12.2010. # 579 «On determining harmful (polluting) substances' emissions into the atmospheric air that are subject to state accounting and standardization and on the list of harmful (polluting) substances' emissions into the atmospheric air that are subject to state accounting and standardization» (as revised on 18.07.2013).

56. Order by Rostechnadzor 29.11.2005 . # 893 (RD -03-14-2005) «On adoption of procedure for execution of industrial safety declaration of hazardous production facilities and list of data to be included in the above»

57. Decree by Gosgortehnadzor of Russia of 05.06.2003 . # 54 «On adoption of Safety Rules for gas processing plants and facilities» (PB 08-622-03).

58. Order by Minzdravsocrazvitiya of 16.02.2009 # 45n «On adoption of norms and conditions for provision of employees working under harmful conditions with milk and other food products of equal value at no cost; Manner of compensation payment equivalent of milk cost and cost of food products of equal value; List of harmful occupational factors, under which exposure it is recommended for prophylactic purposes to consume milk and other food products of equal value» (as revised on 20.02.2014)

59. Order by Minzdravsocrazvitiya of 12.04.2011 # 302n «On adoption of a List of harmful and/ or hazardous occupational factors, which occurrence require prophylactic regular medical examinations and Procedure of such examinations' conducting» (as revised on 15.05.2013).

60. 16.05.2000 Goskomekologiya of Russia Administrative Order 372 On the Regulation on environmental impact assessment of planned economic and other activity in the Russian Federation.

61. SP 47.13330.2012 Construction engineering surveys. Main provisions. Revised edition of SNiP 11-02-96.

62. SNiP 22-01-95 Hazardous Natural Impact Geophysics.

63. SNiP 22-02-2003 Hazardous Geological Process Protection of Areas, Buildings, and Facilities. Main provisions.

64. SP 116.13330.2012 Hazardous Geological Process Protection of Areas, Buildings and Facilities. Main provisions. Revised edition of SNiP 22.02.2003.

65. SP 11-102-97 Feasibility Studies for Construction Projects.

66. SP 11-102-97 Construction Project Feasibility Study Guidelines. Feasibility Studies for Construction Projects, 1997.

67. SN 2.2.4/2.1.8.562-96 Noise at Workplaces, inside Residential and Public Buildings, and within Residential Areas.

68. SP 51.13330.2011 Noise protection. Updated version of SNiP 23-03-2003.

69. SanPiN 2.2.4.1191-03 Electromagnetic Fields in Industrial Production Environment.

70. SanPiN 2.2.1/2.1.1.1200-03 Sanitation Protection Zones and Sanitation Classification of Enterprises, Buildings and Other Facilities (new redaction).

71. SanPiN 2.1.5.980-00 “Hygienic requirements to protection of surface water bodies”

72. SanPiN 2.1.5.2582-10 “Sanitary and epidemiological requirements to protection of sea coast waters from pollution in area of water use by population”

73. SanPiN 2.1.7.1322-03 Hygienic Standards of the Disposal and Neutralising of Industrial and Consumption Waste.

74. SanPin 2.6.1.2523-09 Radiation safety standards (NRB-99/2009).

75. SanPiN 2.1.8/2.2.4.1383-03 “Hygienic requirements on placement and operation of radio transmitter facilities”

76. VSN 014-89 Trunk and Infield Pipeline Construction: Environmental Protection - Moscow: Minneftegazstroi, 1990.

77. Federal norms and regulations in terms of industrial safety “Safety regulations in oil and gas industry” (approved by the Order of the Federal Service on environmental, technological and nuclear surveillance # 101 dated 12.03.2013).

78. RD 52.04.52-85 Methodological Guidelines. Emission Control In Adverse Weather Conditions.

79. SanPiN 2.1.2.2645-10 Sanitary and epidemiological requirements for living conditions.

80. SN 2.2.4/2.1.8.562-96 On the permitted noise levels in residential and public buildings.

81. GOST 12.1.005-88 General hygiene requirements for air of working zone.

82. GN 2.2.5.1313-03 Maximum permissible concentration (MPC) of pollutants in the air of working zone.

83. GOST 12.1.001-89 Ultrasound. General requirements for safety.

84. SN 2.2.4/2.1.8.583-96 Infrasound in the workplace, in residential and public buildings and in residential areas.

85. SN 2.2.4/2.1.8.566-96. 2.2.4. Industrial vibration, vibration in residential and public buildings.

86. Guide on hygienic assessment of factors of working environment and work load R 2.2.2006-05.

ANNEX C:
OVERVIEW SUMMARIES OF KEY NATIONAL RF LEGISLATION AND ADOPTED INTERNATIONAL CONVENTIONS AND TREATIES

Overview Summaries of Key National and International Legislation

NATIONAL LEGISLATION

The Russian Federation legislation that regulates the uses and conservation of natural resources, environmental protection, health, labor and recreation is very extensive. This section discusses only the main legal acts of federal and regional levels and regulatory documents that have followed up on them, which are to be taken into account in designing and operating the facilities of the South-Tambey gas condensate field and the hydrocarbon transport system. The main relevant environmental and social legal acts of the Russian Federation are summarized below.

Constitution of the Russian Federation is the main law that lays down the right of a Russian Federation citizen to 'a favorable environment, reliable information about its state and to restitution for damage inflicted on his health and property by ecological transgressions' (Article 42). The Constitution also stipulates that natural resources shall be utilized and protected as the basis of life and activity of the peoples living in the corresponding territories (Article 9) and maintains that every citizen shall be obliged to protect nature and the environment (Article 58).

***Federal Law On Environmental Protection* 7-FZ** of 10.01.2002 (with subsequent amendments and addenda, latest amendment 12.03.2014). The law sets a legal framework for state policy in environmental protection, regulates the relationships between the public and nature ensuing from economic and other activities. It establishes:

- fundamental principles of environmental protection, including fees: for using natural resources, negative environmental impacts, and repairing damage done to the environment (Art. 3);
- the right of citizens, non-governmental and other non-profit organizations to: take part in public gatherings, meetings, demonstrations, marches, vigils, collection of signatures under petitions, environmental protection referenda; put forward proposals on holding public environmental impact assessment and participate in it according to established procedure; assist governmental bodies of the Russian Federation or its subjects, and local self-government bodies in addressing environmental issues (Art. 11 and 12);
- the requirement to carry out environmental impact assessment of proposed industrial projects or other, that may produce direct or indirect adverse impact on the environment (Art. 32);
- general environmental requirements for the location, design, construction and operation of project sites (Art. 34);
- requirements for oil and gas facilities, oil, gas and their products processing facilities, transportation, storage and selling (Art. 46);
- the obligation of legal and natural persons to repair damages to the environment as a result of its pollution, depletion, damaging, destroying, irresponsible use of natural resources, degradation and destruction of natural ecosystems, natural systems and natural landscapes and other environmental legislation infringements (Art. 77)..

***RF Urban Development Code* 190-FZ** of 29.12.2004 (05.05.2014 version) regulates the relationships in land planning, urban zoning, land surveying, architectural and construction design, capital construction projects, capital facility reconstruction, and capital repairs that bear on the design, reliability and safety of such facilities. It also establishes requirements for: engineering surveys; the development and composition of project documentation for construction and reconstruction facilities; project documentation coordination procedures; governmental project audits; and governmental construction supervision.

More specifically, pursuant to Art. 47 of the Code, engineering surveys (including environmental surveys in particular cases) of the proposed construction area shall be carried out before the preparation of construction or reconstruction project documentation. The prepared project documentation and engineering survey findings shall be submitted to a governmental expert board for assessment, which is aimed at evaluating their conformity to applicable technical standards, including sanitation and epidemiology, to environmental requirements, and protected cultural heritage sites, as well as fire and industrial safety-related, etc. The governmental assessment is conducted by a RF governmental body (Glavgosekspertiza of Russia). Other types of expert assessment are not required.

***RF Government Resolution* # 87** of 16.02.2008 (version28.12.2013) endorsed a regulation 'On the structure of project documentation and its contents' which requires that capital construction projects must include, inter alia, a chapter on 'Environmental protection measures'. The chapter should contain the findings of an environmental impact assessment study and present a list of measures aimed at preventing and (or) mitigating potential adverse impacts on the environment from the project operations, and sustainable use of natural resources throughout construction and operation phases.

***The Russian Federation Land Code* #136-FZ** of 25.10.2001 (23.07.2013 version) regulates the relationships in the use and protection of lands in the Russian Federation as the basis of life and economy of peoples living in respective areas. Land use methods must ensure the preservation of ecosystems, and maintain the capacity of lands to be productive for agriculture and forestry, and remain the basis of economic and other activities (Article 12).

The Code establishes the responsibility of land owners, land users, landlords and tenant operators to take: land protection measures to guard their lands from chemical contamination, littering with industrial and consumption waste, and other negative (adverse) impacts that lead to land degradation; and cleanup measures for contaminated land.

According to version of 28.12.2013 based on amendments introduced by Federal Law # 406-FL of 28.12.2013 areas of traditional nature uses by indigenous low-numbered peoples of the North, Siberia, and Far East of the Russian Federation does not longer belong to protected natural areas.

The Decision of the Russian Federation Government # 140 dated 23.02.1994 "On land remediation, removal, conservation and rational use of top soil" sets regulations on top soil using and the procedure of disturbed soils remediation works".

***The Federal Law on Waste of Production and Consumption* # 89-FZ** of 24.06.1998 (25.11.2013 version) regulates waste management issues. More specifically, during the construction of new facilities (Art. 10) legal persons must:

- meet environmental, sanitation and other requirements concerning environment and health;
- be in possession of technical and process-related documentation on the use and disposal of waste generated at all stages of project implementation.

Waste management measures must be developed in view of waste hazard classification and waste disposal requirements.

***The Russian Federation Water Code* # 74 FZ** of 03.06.2006 (25.06.2012 version) establishes a legal framework for water resource management and protection, primary requirements in water uses, and liabilities for transgressions against water legislation. Surface water bodies include seas (including straits, gulfs, including bays, lagoons, etc.), watercourses (including rivers, streams, canals), reservoirs (including lakes, ponds, impounded quarries, water storage lakes), wetlands, ground water outlets (springs, geysers), glaciers and snowfields (Art. 5). The code stipulates the payment of fees for the use of water bodies (Art. 20).

Physical and legal persons should follow the procedures laid down in the Water Code to obtain rights to use surface water bodies. More specifically, a water use permit is required for any water body in which it is proposed to carry out dredging , explosion, drilling and other operations that involve changes in the bed and sides of water bodies, as well as to discharge waste and (or) ditch water (Art. 11). Carrying out such works on water bodies, or within their water protection zones, or within protected wetlands, shall be in accordance with applicable environmental protection legislation and urban development legislation (Art. 61).Water protection zones are areas adjacent to the shoreline of seas, rivers, streams, channels, lakes, water reservoirs, for which special regime of activities is set in order to prevent water pollution, littering, silting and water depletion of water bodies, and conserve the habitat for aquatic biological resources and other flora and fauna species (Art. 65).

Near-shore protective belts are designated within water protection zone. Additional restrictions for activities are set for near-shore protective belts.

In particular, following activities are prohibited within water protection zones/near-shore protective belts:

- waste disposal, disposal of chemical, explosive, toxic, poisonous substances, disposal of radioactive waste;

- vehicular traffice and parking (except traffic on paved roads and parking in special areas);

- location of filling stations, fuel and lub oil stores, (except location of filling stations, fuel and lub oil stores at harbors, shipbuilding and repair organizations, the infrastructure of inland waterways subject to the requirements of the legislation in terms of environmental protection and this Code), vehicles maintenance stations, vehicles washing;

- discharge of wastewater (including drainage water);

- exploration and mining activities (except if the exploration and mining is undertaken by users of mineral resources within boundaries of mining/geological allotments given to them in accordance with Russian legislation on subsoil on the basis of approved technical design according to the article 19 of the law of the Russian Federation # 2395-I “On subsurface resources” dated 02/21/1992);

- disposal of dredge spoil.

Design, construction, reconstruction, commissioning, operation of facilities are allowed within water protection zones if facilities are equipped with constructions to ensure protection against pollution, littering, silting and water depletion according to environmental legislation.Selection of type of construction for ensure protection against pollution, littering, silting and water depletion depends on norms of permissible discharge which the facility should meet.

Constructions for ensure protection against pollution, littering, silting and water depletion are defined as:

- central wastewater discharge systems, central storm water discharge systems;
- constructions and systems for wastewater discharge into central wastewater discharge systems (including storm, melt, infiltration wastewaters, road washwater and drainage water) if constructions and systems are dedicated for receiving these wastewaters;
- local wastewater treatment plants (including storm, melt, infiltration wastewaters, road washwater and drainage water), ensuring its treatment on the basis of norms/parameters set accorindg to environmental legislation and requirements of this Code;
- constructions for waste (roduction and consumption waste) collection, constructions and systems for wastewater discharge (including storm, melt, infiltration waters, road washwaters and drainage waters) into receiving container made of impermeable material (Art. 65).

Federal Law “On Internal Maritime Waters, Territorial Sea and Contiguous Zone of the Russian Federation” No. 155-FZ of 31.07.1998 (edition of 03.02.2014) is setting the status and legal regime of the internal maritime waters, territorial sea and contiguous zone of the Russian Federation. It determines the limits of the internal maritime waters, territorial sea, legal regime of seaports, passage of ships through the territorial sea, procedure of marine scientific surveys, protection and conservation of the marine aquatic environment and natural resources of the internal maritime waters and territorial sea.

Amendments introduced to the Law on May 7, 2013 fix that dumping of the bottom soil removed due to the dredging in the internal waters and territorial sea is not recognized as waste disposal.

Dumping of the bottom soil removed due to the dredging in the internal waters and territorial sea is prohibited within the limits of the specially protected natural areas and their conservation zones, the limits of the fisheries protected zones and in case of this soil contains hazardous substances from the list established by the RF Government in accordance with international agreements.

Federal Law On Air Protection **# 96-FZ** of 04.05.1999 (23.07.2013 version) is aimed at exercising the citizens' rights to a healthy environment and to reliable information about its status; establishes a legal framework in ambient air protection, including requirements concerning air protection measures to be taken by those engaged in economic activity of any kind.

Any construction project must envisage measures on mitigating and neutralizing harmful (polluting) emissions.

To protect ambient air in residential areas, enterprises (or their groups) are required to establish sanitation protection zones around their sites. The size of such sanitation protection zones should be determined drawing from harmful (polluting) contaminant dispersion calculations and in line with the industry sanitation classification.

Federal Law On Animals **# 52-FZ** of 24.04.1995 (21.11.2011 version) regulates relationships in protecting and using animals, as well as habitat protection and remediation, in order to preserve biological diversity, keep intact the wildlife gene pool, and otherwise protect animals as an integral part of the natural environment.

Pursuant to Art. 22 of the Law, measures to ensure the preservation of migratory routes of animals and areas in which they concentrate on a permanent basis, including breeding and wintering areas, should be taken during the siting, design, and construction of aerodromes, railways, motor roads, pipelines and other transport links. To protect habitats of rare, endangered and valuable species from commercial and research points of view, special terrestrial and water areas have to be designated that are essential for their lifecycle (reproduction, raising the young, feeding, rest, migration, etc.). If they affect life cycle stages of the animals, the operations within the protected areas are subject to restrictions in terms of timetable and work technology used.

Pursuant to Art. 24, it is prohibited to undertake activities that may result in killing animals, reducing populations, or damaging habitats of Red Book animals.

The Law provides for a right of precedence for indigenous low-numbered peoples and ethnic communities that utilise wildlife. The same also applies to individuals belonging to these groups, whose original culture and life styles include traditional techniques of protection and use of animals (Art. 49).

Pursuant to the Law, legal persons and citizens guilty of violating habitat protection rules, killing animals of rare or endangered species, breaking hunting or fishing rules, not meeting the requirements aimed at preventing the death of animals as a result of economic activities or transport operations, can be charged under civil, administrative, or criminal law (Art. 55).

Legal persons and citizens who have caused damage to animals or their habitats are obliged to repair it out of their own free will, or by decision of a court of law. The damage is calculated in accordance with applicable rates and methodologies, or, in their absence, - based on actual costs of compensation for the damaged caused to animals or their habitats, in view of sustained losses, including loss of expected gain (Art. 56).

***13.08.1996 RF Government Directive* 997** (with amendments of 13.03.2008) On endorsing Regulations on the prevention of killing animals due to industrial processes, and due to transport link, pipeline, communications line and power transfer line operations. They are aimed at regulating industries so as to prevent animal population losses as a result of: changed environmental conditions and disrupted migratory routes, getting into water intake installations, parts of industrial equipment, under moving vehicles and agricultural machines; construction of production and other sites, extraction, processing and transporting raw materials; colliding with power lines and electrocution, electromagnetic field impact, noise, vibrations, animal farming or plant growing techniques.

***Federal Law On fishery and water biological resource conservation* 166-FZ** of 20.12.2004 (12.03.2014 version) regulates fishery activities and water bio-resources conservation. The Law requires that measures are taken to preserve water bio-resources and their habitats during construction, reconstruction, or capital repairs of capital construction facilities (Art. 50) The law also requires compensation for damages caused to water bio-resources (Art. 53), either voluntarily or based on a court's decision and is calculated either on the basis of approved rates and methodologies, or based on the costs the restoration of bio-resources would take (if methodologies are unavailable).

The RF Government Resolution No.380 of 29.04.2013 "On Approval of Regulation on Measures of Aquatic Biological Resources and Habitats Conservation". It establishes the aquatic biological resources and habitats conservation measures that should be implemented along with the activities which expressly or by implication effecting the biological resources and habitats.

Particularly, these measures are the following:

- Operational environmental monitoring of the operations impact on the aquatic biological resources and habitats;
- Using of effective fish-protection devices preventing the biological resources from getting into the water intake;
- Compliance with the water quality norms and fishery water bodies hydrological regime requirements;
- Elimination of negative impacts by artificial reproduction and acclimatization of biological resources or by amelioration of water bodies for fish culture.

Herewith, the measures eliminating negative impacts on the biological resources and habitats (including maintenance and operation of the production capacities ensuring implementation of such measures) should be fully implemented by the legal entities and individuals as well as individual entrepreneurs until complete stop of such impact on biological resources and habitats either by themselves at their sole costs or by contracting legal entities and individual entrepreneurs performing artificial reproduction, acclimatization of biological resources and amelioration of water bodies for fish culture.

The Decision of the Russian Federation Government of 30.04.2013 # 384 "On the agreeing with Federal Agency on Fishery of construction and reconstruction of capital construction

facilities, implementation of new technical processes and other types of activities which can impact on aquatic biological resources and their habitats".

This regulation states that activities (construction, implementation of new technological processes and other activities which may have impact on the environment) is the responsibility of the Federal Agency for Fishery.

This legislation is applicable for:

- Construction of facilities located in internal martime sea, the territorial sea and exclusive economic zones of the Russian Federation, which design documentation is the subject of State Environmental Expert Review;
- Implementation of new technological processes and other activities performing at mentioned territories, at the territories of at least two regions and in transboundary water bodies.

Federal Law on Subsurface Resources of 21/02/1992 (version of 28.12.2013) regulates issues in terms of investigation, using and protection of subsurface resources of the Russian Federation, its continental shelf and sea exclusive economic zone, as well as waste of mining and associated processing industry, peat, sapropel and other specific mineral resources.

This law states that used areas of subsurface resources located within borders of the Russian Federation belong to State Fund of Subsurface Resources, management of which is carried out on behalf of peoplers of the Russian Federation.

Subsurface resources are granted to use based on license for designated period (from 5 up to 25 years – depending on the type of using) or for unlimited period. Use of subsurface resources is paid (except cases of exemption from payment for some catergories of users).

According to amendments introduced by 227-FL of 23/07/2013 period of use of subsurface resources located in YNAO for the purpose of geological investigation has been prolongated from five to seven years.

Federal Law On Protected Natural Areas 33-FZ of 14.03.1995 (12.03.2014 version) regulates relationships in organizing, protecting and using protected natural areas in order to: preserve unique and typical natural systems and features, natural heritage sites, valuable plants and animal species, their genetic pool; and to study natural processes in the biosphere, and monitor changes in its state, and to raise environmental public awareness.

The Law stipulates that protected natural areas (PAs) are a public good. PAs include lands, water bodies, and air space above them, that contain natural systems and features of special environmental, scientific, cultural, esthetic, recreational, and health value and are taken out fully or partly of economic activity by decisions of relevant authorities.

Federal Law On Guaranteed Rights of Low Numbered Indigenous Peoples of the Russian Federation 82-FZ of 30.04.1999 (05.04.2009 version). Pursuant to Art. 4 of the Law, federal authorities and local self-administration bodies shall ensure that low-numbered indigenous peoples

exercise their right to socio-economic and cultural development in their own ways, protection of their environment, traditional lifestyles and economies. Low-numbered peoples, in particular, have the right (Art. 8)

- to own free of charge and use, at the locations of traditional residence and economy, lands of different categories, as may be required to pursue traditional husbandries and engage in traditional crafts.

- to take part in environmental and ethnological expert assessments during the development of federal and regional State programmes for the development of natural resources and environmental protection in areas of traditional residence and economies of low-numbered indigenous peoples;

- to restitution of losses caused in the process of inflicting damage on the traditional places of residence of the low-numbered indigenous peoples by economic activities of companies of all forms of ownership, by natural persons, etc.

***Federal Law On Areas of Traditional Nature Uses by Indigenous Low-Numbered Peoples of the North, Siberia, and Far East of the Russian Federation* 49-FZ** of 07.05.2001 (28.12.2013 version) is aimed at protecting the traditional areas of residence and lifestyles of low-numbered peoples, preserving and taking forward their original cultures, and preserving biodiversity in areas of their traditional nature uses.

The Law provides certain restrictions on economic and other activities within the boundaries of areas of traditional nature uses. More specifically, natural resources located within these areas shall be used by persons belonging to a low numbered indigenous people, to sustain their traditional lifestyles, and by communities of low numbered peoples in accordance with their traditions (Art. 13). Historical and cultural heritage sites within the areas of traditional nature uses (ancient settlements, other historical sites, cult structures, ancestors' burial grounds, and other cultural and historical heritage sites) can be used only in accordance with their intended purpose (Art. 15).

According to the version of this law dated 28.12.2013 based on amendments introduced by the Federal Law # 406-FL, areas of traditional nature uses belong to protected areas (prior these areas belonged to natural protected areas).

Federal Law On the Protection of the Public and Areas against Emergencies of Natural and Technogenic Nature 68-FZ of 21.12.1994 (28.12.2013 version) sets out organizational and legal arrangements for protecting the public, lands, waters and air within the Russian Federation, industrial and social facilities, and the environment from natural and technogenic emergencies. The Law requires that organizations:

- create, train and maintain in the state of readiness a task force and technical means to prevent and eliminate emergencies, train personnel to protect themselves and act in an emergency;

- organize and carry out rescue operations and other urgent works at their sites of production or social purpose and in adjacent areas in accordance with emergency prevention and response plans;

- create reserves of financial and material resources to be used for emergency response action, etc. (Art. 14).

Citizens of the Russian Federation have the right to the protection of their life, health, and belongings in an emergency, and to the reinstitution of damage done to their health and property (Art. 18).

***RF Government Resolution* #240** of 15.04.2002 endorsed the Russian Federation Crude Oil and Petroleum Product Spill Prevention and Response Regulations.

According to the document, organizations with hazardous production facilities must develop a crude oil and petroleum product spill prevention and response plan. Such organizations have to create oil spill response task forces, conduct regular checks of their preparedness, supply with special gear, or enter into contracts with professional rescue units.

***Federal Law on Industrial Safety of Hazardous Production Sites* 116-FZ** of 02.07.2013 (07.03.2013 version) defines a legal, economic and social framework for hazardous production facilities to operate safely and is aimed at preventing contingencies and ensuring that organizations that operate hazardous facilities are prepared for containing and cleaning up the consequences of the said contingencies.

Technical devices used at a hazardous production site should be put through an expert assessment procedure as prescribed by law (Art. 13).

Federal Law 22-FL dated 04.03.2013 sets out a framework for the classification of hazardous industrial facilities depending on the risk of emergency and scale. All hazardous industrial facilities are divided into one of four classes: extremely high risk of hazard (Class I), high (Class II), moderate (Class III) and low (Class IV).

The class of hazard is assigned during registration of a hazardous industrial facility in the relevant state register. This legislation sets out requirements for permanent supervision of 1st Class facilities and the inspection schedule for all classes of hazardous industrial facilities.

Companies operating 1st and 2nd Class facilities are required to develop safety management systems and meet a requirement for obligatory declaration.

Federal Law Building and Structure Safety Technical Standards 384-FZ of 30.12.2009 (in edition of 02.07.2013)lays down minimum requirements to buildings and structures (including engineering supply networks and systems they contain) as well as to building and structure construction-related processes of design (including feasibility studies), construction, installation, tuning up, operation and disposal (demolition). More specifically, it contains requirements to be met regarding the following:

- mechanical safety;
- fire safety;

- safety related to hazardous natural processes and phenomena and (or) man-made impacts;
- safe living and working conditions in buildings and structures;
- safety of visitors to buildings or structures;
- power efficiency of buildings and structures;
- safe level of impact of buildings and structures on the environment.

Buildings and structures should be designed in such a way that as they are built and operated there is no threat of negative impact on the environment.

***Federal Law «On Public Sanitation and Epidemiology Welfare* 52-FZ** of 30.03.1999 (25.11.2013 version) regulates issues in the field of sanitation and epidemiological welfare of the public as one of the conditions of exercising the RF Constitutional right to health protection and a clean environment.

More specifically, legal persons are obliged to: ensure that works performed and services rendered are safe for health; conduct industrial monitoring over how sanitary regulations are met; and ensure that required sanitation and anti-epidemic (prophylactic) measures are taken; and inform in a timely manner the general public, local self-administration bodies, and sanitation supervision agencies about contingencies, production downtimes, failures to follow approved technology, etc. that present hazards to the sanitation and epidemiological welfare of the public (Art. 11).

YNAO REGIONAL LEGISLATION

Environmental legislation in Yamal-Nenets Autonomous Okrug (YNAO) and health legislation are aimed at addressing issues characteristic of this region, and are improved all the time. Below are presented primary legislative and regulatory documents of regional level that contain features specific to YNAO, and that need to be taken under advisement when implementing this Project.

YNAO Law No. 53-ZAO of 27.06.2008 (red. of 06.12.2012) 'Concerning Environmental Protection in Yamal-Nenets Autonomous Okrug'

The law is aimed at ensuring healthy environment, environmental safety, biodiversity conservation, creating what is needed to protect the natural environment and critical needs of the population from potential adverse impacts coming from industries or other human activities, acts of God, or technogenic accidents, and their consequences.

The law provides for the development of okrug-wide environmental quality standards and those for allowable impacts on the environment from industries or other human activities. The standards set by the law may not be lower than those set by the federal legislation.

Pursuant to the Law, to protect and keep track of rare and endangered species of animals, plants and other organisms within the Okrug, the AO Red Book is instituted. To take stock of and protect rare and endangered soils, Red Book of Soils of the Autonomous Okrug is instituted, to be kept pursuant to the applicable YNAL Government Directive.

YNAO Governor's Decree of 12.01.2004 # 3 "On keeping the Red data book of Yamalo-Nenetsky Autonomous Okrug"

The Decree sets out the Regulation on the Committee on rare and endangered flora and fauna at the area of YNAO.

YNAO Governor's Decree of 12.11.2001 # 668 "On keeping the Red data book of Yamalo-Nenetsky Autonomous Okrug"

This Decree establishes:

- Regulation on the Red data book of Yamalo-Nenetsky Autonomous Okrug;
- The list of taxons and populations of fauna, flora and fungus included in Red data book of Yamalo-Nenetsky Autonomous Okrug;
- The list of taxons and populations of fauna, flora and fungus of Yamalo-Nenetsky Autonomous Okrug, which need special emphasis on their condition in the environment;
- The list of taxons and populations of fauna, flora and fungus, excluded from Red data book of Yamalo-Nenetsky Autonomous Okrug.

YNAO Law N 114-ZAO of 28.12.2005 (red. Of 30.09.2011) 'Concerning State support to indigenous low-numbered peoples of the North and organizations engaged in traditional businesses within Yamal-Nenets Autonomous Okrug'

The law lays down legal foundations and types of governmental support to ILNP communities and organizations engaged in traditional businesses within YNAO and registered as a legal person therein.

As part of State support, YNAO executive power authorities ensure that:

- ILNP exercise their rights to use biological resources for subsistence in areas of traditional residence and activities;

- support for the production and sale of traditional products produced here (reindeer farming, reindeer product processing, including collection, storage, and currying of skins, ossified antlers, unossified antlers, endocrine glands, meat, byproducts; fishing and selling of aquatic biological resources; fur farming, processing and selling of fur farming products; commercial hunting, processing and selling of hunting products; gathering of edible forest resources and medicinal plants);

- continued development of local popular arts and crafts (kitchenware, house appliances, boats, sledges, other traditional transport means, musical instruments, birchbark products, souvenirs from reindeer fur, animal skins, bird feathers, etc.).

The law makes it mandatory to disclose information to ILNP communities and organizations engaged in traditional businesses about planned uses of areas of their residence and activities to ends not relevant to ILNP activities. In doing so, the YNAO executive power authorities should provide consulting assistance in carrying out legal assessment of contracts entered into by organizations engaged in the development of fossil fuels, mineral and power resources with ILNP communities and organizations engaged in traditional businesses.

YNAO Law N 49-ZAO of 06.10.2006 (red. Of 08.10.2010) 'On the Protection of Traditional Habitats and Lifestyles of Indigenous Low-Numbered North Peoples (ILNP) in Yamal-Nenets Autonomous Okrug'

The law sets out guidelines for implementing governmental policy to protect traditional habitats and lifestyles of ILNP.

The law defines an ILNP traditional habitat as a historically formed area within which they carry out their cultural and domestic activities and which determines their identity and lifestyles.

Types of traditional businesses are historically established, environmentally sustainable ways to use animals and plants and other natural resources, as well as methods to keep households, manufacture utensils and appliances characteristic of indigenous low-numbered North peoples.

The guidelines for implementing governmental policy to protect traditional habitats and lifestyles of ILNP include:

- conservation of traditional habitats and lifestyles of ILNP, including environmental protection;
- ensuring the preserved state and development of ILNP traditional nature uses;
- creation of conditions for the preservation and revival of traditional lifestyles of ILNP in order to support the development of authentic cultures of indigenous low-numbered North peoples, preserving their customs and beliefs.

The law provides for mandatory environmental assessment of impacts on traditional habitats and lifestyles of ILNP, pursuant to procedure set in applicable YNAO legislation.

To preserve and revive authentic social arrangements of ILNP community, support the development of their authentic culture, preserve customs and beliefs in the autonomous okrug, creating the following conditions is required by the law:

- preserve and develop the language and literature, national art, folklore, and national sports;
- protect sacred, cult sites and burial grounds of indigenous low-numbered North peoples;
- governmental support to research aimed at preservation of authentic ILNP cultures.

YNAO Law N. 48-ZAO of 06.10.2006 'On Cultural Heritage Sites in Yamal-Nenets Autonomous Okrug' (red. of 28.05.2014)

The law is dedicated to the protection, use, promotion and protection of historical heritage (historical and cultural heritage sites) in YNAO, that is of value for the multi-national population of the autonomous Okrug, or part of national wealth and heritage of the Russian Federation's peoples, or the world's heritage.

ILNP cultural heritage sites include:

- family, tribal and national ILNP sacred or cult sites;

- ILNP family or tribal burial grounds;
- family, tribal, or national monuments;
- locations of popular crafts;
- other sites, of exclusive value for ILNP.

In order to revive, preserve and develop their authentic cultures, ILNP are given rights to:

- participate in the development of measures to protect sacred sites and burial grounds of ILNP, included in Okrug-wide ILNP socio-economic and cultural development programs.
- assist autonomous Okrug authorities and self-government bodies in keeping stock of ILNP sacred sites and burial grounds;
- keep ILNP sacred places and burial grounds in accordance with their customs, conduct public supervision over their state of repair;
- take their own measures to protect ILNP sacred sites and burial grounds;
- supervise over planned and conducted activities in areas of traditional residence and businesses of ILNP, as well as research and studies related to the exploration of traditional lifestyles, and cultures of indigenous low-numbered North peoples.

The law provides that ILNP sacred sites and burial grounds should be used only in accordance with their functional purpose.

Cultural heritage sites, areas wherein they are located, protected historical and cultural heritage areas, protection zones of relevant sites and areas within the autonomous okrug shall be placed under government protection.

Traffic of vehicles of various kinds within cultural heritage areas or on roads running through their protection zones may be restricted or prohibited.

The Decision of the YNAO Government of 12/12/2011 # 901-П establishes regional long-term special program “Conservation of culturage heritage of Yamalo-Nenetsky Autonomus Okrug for 2012-2014”.

YNAO Law No. 52-ZAO of 05.05.2010 (red. of 30.09.2011) 'Concerning Regional Importance Traditional Nature Uses Areas in Yamal-Nenets Autonomous Okrug'

It sets out the rules for establishing, using and protecting traditional nature uses areas. Traditional nature uses subjects within such areas are:

- persons representing indigenous low-numbered North peoples or communities of indigenous low-numbered North peoples in the autonomous okrug;
- persons not belonging to indigenous low-numbered North peoples, but having permanent residence in locations of their traditional residence or businesses, and engaged, like ILNP in the autonomous okrug, in traditional nature uses and lifestyles.

The law provides that areas of traditional nature uses of regional importance should be established at the requests of traditional nature uses subjects or their representatives. Procedure for using and protecting such areas is set out in the respective area statute. Traditional nature uses subjects are given precedence in nature uses. If lands or natural sites within such areas are expropriated for specific purposes by the State or municipality, respective traditional nature uses subjects shall be given compensation.

The law establishes that uses of lands and natural resources within traditional nature uses areas, as well as environmental protection, protection of historical or cultural heritage sites shall be in accordance with customs of indigenous low-numbered North peoples.

The Decision of Administration of YNAO of 09.10.2008 # 536-A sets out the procedure of using water bodies in the areas of traditional residence and traditional activity of indigenous low-numbered peoples of the North in order to ensure protection of indigenous environment and traditional lifestyle of their peoples at the area of Yamalo-Nenetsky Autonomus Okrug.

YNAO Law No. 65-ZAO of 09.11.2004 (red. of 02.11.2005) 'Concerning Fishing in Yamal-Nenets Autonomous Okrug'.

The law's objectives (inter alia) are to conserve fishing as an ILNP ethnos-forming household and economic activity.

Legal principles surrounding the protection of fishing include:

- mandatory government-sponsored environmental assessment of economic or other activities that have effects on fish resources;
- reconcilement of interests of ILNP, the population in the autonomous okrug as a whole, and the Russian Federation;
- precedence given to ILNP in using fish resources and other natural resources that constitute as a whole their subsistence in areas of traditional residence and businesses of these peoples;
- recognizing ILNP customs as the basis for regulating protection and use of fish resources along with applicable laws and other regulatory documents;
- disclosure of information and liaison with grassroots and general public in fishing business;
- taking into consideration special features of some areas and national peculiarities of fishing as done by the population;
- equality of citizens and legal persons in their fishing rights.

ILNP citizens, within permanent residence and traditional businesses areas, and non-ILNP citizens who have been born and(or) resided in areas of ILNP permanent residence and traditional businesses for at least thirty years, are allowed consumer fishing for valued fish species without a license any time of the year in any bodies of water, except spawning grounds or wintering deeps.

YNAO Law N 36-ZAO of 18.04.2007 (red. of 26.09.2013) "Yamal-Nenets Autonomous Okrug Urban Planning Statute"

The law regulates urban planning activities within the autonomous okrug, and stipulates that the primary objectives of this activity, inter alia, include:

- ensuring safety and protection of areas from the impacts of hazardous natural and technogenic processes and phenomena;
- preservation of traditional business and life styles of indigenous low-numbered North peoples and ethnic communities, historical habitats and settlements of the same;
- conservation of historical and cultural heritage;
- create conditions for industries to develop in the area.

YNAO Law No. 12-ZAO of 10.01.2007 (red. of 04.12.2013) 'Concerning Health Care in Yamal-Nenets Autonomous Okrug'.

The law provides for health care support to ILNP and other ethnic community persons that lead traditional lifestyles within YNAO, namely:

- free medical services in accordance with regional government guaranteed free medical aid programs for the population;
- free preventive medical care services in accordance with special programs endorsed by YNAO Government;
- free of charge annual hospital treatment coverage;
- top priority medical care, including specialized;
- free prescription medicines during outpatient treatment;
- free baby clothes for ILNP newly-born.

Special attention is given to antituberculosis aid.

Some groups of citizens and persons suffering from selected categories of disorders (according to annexes to the Law) are entitled to social support measures including free medicines, medical care appliances, and diagnostics devices.

YNAO Law of 24.12.2012 # 148-ZAO (version of 27.02.2014) "On program of socio-ecomomic development of Yamalo-Nenetsky Autonomus Okrug for the period 2012-2016" establishes scope and objectives of the program, its implementation arragements and results. The aim of the program is to ensure sustainable improvement of the stadards of living on the basis of competitive economics subject to appropriate environmental requirements.

In particular, objectives of the Program are: development of infrastructure and social sectors; conservation and development of human potential and traditions; environmental protection and improvement of the environment of the autonomus okrug.

YNAO Government Directive N 422-P of 27.06.2011 (red. of 28.03.2013) 'On the Endorsement of the Yamal-Nenets Autonomous Okrug Demography Improvement Integrated Program for 2011 to 2013'

The Program objective is to support demographic trends whose parameters meet the needs of YNAO sustainable economic development. The Program is designed to address tasks aimed at:

- bring down mortality and injury rates, from preventable causes, in the first place, create conditions for cutting down risks of occupational traumatism and occupational morbidity;
- stabilize current birth rates in the population;
- strengthen family as the most harmonious form of existence and self-realization of a person, begetting and education of children, and co-existence of different generations;
- create factors to ensure higher efficiency of migration processes, optimal labor migration for the needs of socio-economic development.

YNAO Government Directive N 1007-P of 23.12.2011 (version of 14.02.2014) 'On the Endorsement of Long-Term Special Program: Conservation of Traditional Lifestyles, Culture and Language of Indigenous Low-Numbered Peoples in Yamal-Nenets Autonomous Okrug for 2012 to 2015'

The Program has the following objectives:

- preservation of cultural heritage and popularization of cultural values, expansion of cultural and partner links between ILNP in Yamal-Nenets Autonomous Okrug;
- conservation of language and literature, and original ILNP cultures;
- raising of ILNP education level in YNAO;
- preserving traditional lifestyles, ensuring sustenance for ILNP;
- supporting employment, and stimulating ILNP economies.

YNAO Government Directive N 22-P of 18.01.2012 (red. of 15.01.2014) 'On the Endorsement of Long-Term Special Program: Environmental Protection and Environmental Safety in Yamal-Nenets Autonomous Okrug for 2012 - 2016'

The Program objective: development and implementation of measures to ensure environmental safety in the autonomous Okrug, stabilization and gradual improvement of the state of the environment, rational use and reproduction of natural resources, ensuring of rational and sustainable nature uses.

The Program provides for addressing issues in air protection, water protection, waste management, conservation of typical and unique ecosystems and biodiversity, environmental education and enlightenment of the population;

The Decision of YNAO Government of 27.10.2011 # 802-П (version of 25.12.2013) "On the approval of regional long-term special program "Development of solid domestic and industrial waste management system in Yamalo-Nenetsky Autonomus Okrug for the period 2012-2014".

The objective of the program is development of the integrated system of solid domestic and industrial waste management at the area of okrug which allowes reduce man-made impact on the environment and improve environmental condition.

YNAO Government Directive N 242-P of 30.09.2010 (red. of 26.04.2012) 'On the Endorsement of Mineral Resources Use Procedure for the Exploration and Extraction of Common Fossil Fuels within Yamal-Nenets Autonomous Okrug'

The procedure sets out primary conditions for extracting common fossil fuels, that are not on the State balance sheet of fossil fuels, for the own needs of land owners, land users, landlords, and land holders.

It provides that owners of land parcels (land users, landlords, or land holders) may, without a mineral resources extraction license, within their borders, carry out, at depths of five meters at the very most, without using explosives, the extraction of fossil fuels for their own household and economic needs (without the right to sell mineral raw material or products made from it, or to use the extracted mineral resources for industrial or technology purposes).

Extraction of common fossil fuels for nature users' own needs as they conduct exploration, geological surveys and extraction of other mineral resources, within the boundaries of a mining allotment licensed to them, may be pursued only if an official certificate of approved reserves of common fossil fuels is available.

YNAO Government Directive N 792-P of 27.10.2011 'Concerning the Endorsement of the Requirements for the Prevention of Animal Losses as a Result of Industrial Processes, as well as Operations of Transport Links, Pipelines, Communications Lines, and Those of Power Transfer within Yamal-Nenets Autonomous Okrug"

The requirements must be met by every legal person regardless of their organizational and legal status, as well as by individual entrepreneurs as they use industrial processes in agriculture and forest management, forest industry, at production or construction sites with equipment mounted outdoors, water management works and reservoirs, raw and auxiliary materials storage facilities, on water transport lines, and motor roads, railways or airdromes, or as they operate pipelines, over 6 kW power lines, and communications lines.

The document contains a set of obligatory measures aimed at the prevention of animal losses in different types of human activity that has adverse impact on the environment. More specifically, these include:

- Permanent and makeshift water intake facilities at water reservoirs and water courses should be fitted with special devices safeguarding animals against being killed;
- To minimize disturbance factors (noise, vibration, shock waves, etc.) affecting animals, it is necessary to be guided by applicable instructions and recommendations for measuring, estimating, and bringing down their levels;

- Design and construction of transport links should be done with due respect to restricting as much as possible their passing along the natural borderlines between landscapes of different types, crossing migratory routes, as well as locations with a large concentration of animals;
- Transport link sections that may present threat in areas of the presence of large quantities of animals and along their routes of migration should be fitted with special crossings for animals;
- Where transport links cross small rivers and streams, free migration of animals should be ensured.
- Crossings of water courses at wintertime during seismic exploration and geological survey works should be arranged using special wheel conducts that are to be dismantled once the works are over;
- It is prohibited to exceed maximum allowable levels of electromagnetic field impacts and other adverse physical effects of power lines on animals;
- In places where mass migration of birds takes place, to prevent killing them from flying into overhead communications lines, it is recommended to replace overhead communications lines with underground or radio-relay ones;
- Spot lights or other powerful lighting devices, the way they are installed, and the direction of the beam should be chosen so as to have minimum adverse impact on birds, bats, and other animals, not causing their killing as a result of blinding, disorientation, especially during migrations.

YNAO Legislative Assembly Resolution N 839 of 14.12.2011 (version of 21.05.2014) 'On Yamal-Nenets Autonomous Okrug Socio-Economic Development Strategy till 2020'

The strategy has been developed drawing on key long-term planning objectives, both at the level of the Russian Federation and Urals Federative Okrug, and All-Russian and economic sector development priorities. The Strategy objective is to ensure sustainable growth of the population's quality of life based on a competitive economy to be built with due respect to applicable environmental requirements.

Priority YNAO economic development guidelines include oil (Gydan Peninsula), gas (Yamal Peninsula) industries, extra exploration and development of fossil fuels in the industrial Urals zone and taking forward transport infrastructure.

The primary sector of the region's economy will remain oil and gas industry in the mid- and long-term. To this end, it is envisaged that some very large-scale investment projects, including ones on the development of the onshore areas of the Yamal Peninsula, will be implemented. These include six gas fields (South-Tambey, North-Tambey, West-Tambey, Tasiysk, Malyginsk, and Syadorsk), whose combined capacity is around 65 billion m^3 of gas yearly.

The Decision of the YNAO Government of 14.02.2013 # 56-П (version of 26.11.2013) sets out the regulation on territorial environmental control system within licensed areas used for subsurface use for oil and gas production in Ymalo-Nenetsky Autonomus Okrug.

The Decision of the YNAO Government of 05.02.2014 # 886-П establishes regulation on procedure of conducting regional state surveillance in terms of using and protection of water bodies at the area of Yamalo-Nenetsky Autonomus Okrug.

INTERNATIONAL TREATIES LEGISLATION

The Russian Federation has ratified a number of international conventions concerned with environmental and social protection, whose requirements need to be taken into account in developing and implementing the Project. A summary of environmental and social related international conventions is provided in the Table below.

Date of Signature	Name	Comments
Animal and Plant Protection Conventions		
1973	Convention on International Trade in Endangered Species of Wild Flora and Fauna, 1973 (CITES)	CITES aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
1992	Convention on Biological Diversity, Rio de Janeiro	Ratified by Federal Law 16-FZ of 17.02.1995. It sets out the following requirements to be met while pursuing economic activity so as to protect biodiversity: • carry out environmental impact assessment of all proposed projects that may have adverse effects on biodiversity; • ensure public participation in environmental assessment procedures; • take measures to ensure that the environmental consequences of programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account; • facilitate information exchange. The Convention is relevant to this project, since some natural ecosystems fall within the oil field impact zone.
1979	Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), Bonn,1979	The Convention is relevant to the project, since migratory animal routes may cross the oil field impact zone
1971	Convention on Wetlands of International Importance, especially as Waterfowl Habitat, Ramsar	There are no Ramsar (or candidate Ramsar) sites within the Project Area of Influence Provides the framework for national action and international cooperation for the conservation and wise use of all

Date of Signature	Name	Comments
		wetlands and their resources through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development
ClimateConventions		
1992, New York	UN Framework Convention on ClimateChange	Produced at the Earth Summit. It expresses in general terms the concern of the world community in view of man-made climate changes, including global warming as a result of the greenhouse effect, and lays down general recommendations on cutting down greenhouse gas emissions The Kyoto Protocol to the Convention (Kyoto, 1997), ratified by the Russian Federation, sets maximum allowable limits on carbon dioxide and other greenhouse gas emissions, establishes emission allowances for member countries, and emissions trading procedures. The Convention has relevance to this project, since some Yamal LNG facilities may produce greenhouse gas emissions.
1997, Kyoto	Kyoto Protocol	
Air Protection Conventions		
1988/89	Vienna Convention for the Protection of the Ozone Layer, Vienna, 1988, and the Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1989	These are of relevance to this project, since during the construction and commissioning of new facilities substances that deplete the ozone layer may be emitted.
1979	Convention on long-range transboundary air pollution, Geneva, 1979	The Convention's primary objective is to protect the man and his environment from air pollution and to seek to limit, gradually reduce, and prevent the contamination of ambient air, including long-range transboundary air pollution. The Convention is relevant, because the construction and operation of OGCF facilities and pipeline systems inevitably produce polluting emissions.
Social issues / consultations		
1998, Aarhus	UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters	The Convention is relevant to the project in view of the need to inform the public of how the project bears on the state of the environment.
1972	Convention Concerning the	Parties have a duty to the identification, protection, and

Date of Signature	Name	Comments
	Protection of the World Cultural and Natural Heritage	conservation, of cultural and natural heritage covered by the Convention In terms of natural heritage, this includes natural features that are of outstanding universal value from the aesthetic or scientific point of view, and areas that constitute the habitat of threatened species of animals and plants of outstanding value from the point of view of science or conservation.
Principal conventions on labor protection and health		
2003	Convention 182 concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor	The Convention matches respective Russian legislation whereby the worst forms of child labor are prohibited (child - any person under 18 years of age).
1961	ILO Convention 111 Concerning Discrimination in Respect of Employment and Occupation	These Conventions are fundamental and shall be taken under advisement during project implementation, as OOO Taas-Yuryakh Neftegazodobycha will be using hired labor of workers and operatives who enjoy certain rights in accordance with the said Conventions.
1956	ILO Convention 29 concerning Forced or Compulsory Labor	
1998	ILO Convention 105 concerning the Abolition of Forced Labor	

Conventions concerning the rights of indigenous peoples		
1989	ILO 169 Convention Conventionconcerning indigenous and tribal peoples in independentcountries	Establishes a comprehensive set of minimum standards on indigenous rights. The Convention establishes a duty for States to respect the special importance for the cultures and spiritual values of indigenous peoples of their relationship with the lands and territories which they occupy. The Convention includes articles that address non-discrimination against indigenous workers, recognition of IP cultural, and the need for free, prior and informed participation in developments that affect them. The Convention is of relevance, because indigenous peoples are present in the vicinity of the oil field, albeit outside of the Project licence area for the most part.

1966	International Covenant on Civil and Political Rights, 1966	Reaffirms the political dimension of the right of self-determination, through which 'all peoples' have the right to freely determine their political status, and freely pursue their economic, social and cultural development. The right of self-determination also includes an economic or resource dimension, such that the people concerned may, for their own ends, freely dispose of their natural wealth and resources

Another group of international conventions and treaties applicable to the Project is represented by 'marine' conventions.

Conventions relating to marine issues: shipping, oil pollution, marine environmental protection		
1982	UN Convention on the Law of the Sea	Comprehensive legal order for the seas and oceans, addressing navigational rights, territorial sea limits, economic jurisdiction, the legal status of resources on the seabed beyond the limits of national jurisdiction, passage of ships through narrow straits, conservation and management of living marine resources, protection of the marine environment, marine research regimes, and a binding procedure for settlement of disputes between Stales.
Conventions relating to marine pollution		
1973, as modified by the Protocol of 1978 relating thereto	International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)	The main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes; includes regulations aimed at preventing and minimizing pollution from ships, both accidental pollution and that from routine operations, including by oil (Annex I) and by noxious liquid substances (Annex 11) (the two mandatory annexes).
1972, and the 1996 Protocol	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (also known as the London Dumping Convention ('LDC))	1972 LDC prohibits the dumping of certain hazardous materials, requires a prior special permit for the dumping of a number of other identified materials and a prior general permit for other wastes or matter. The Protocol provides for strong restrictions on dumping according to the Precautionary Approach and establishes the 'polluter pays' principle.
2001	The International Convention	Aims to prohibit the use of harmful organotins in anti-fouling

	on the Control of Harmful Anti-fouling Systems on Ships, 2001	paints used on ships and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems. The convention entered into force on 17 September 2008.
Conventions relating to response to pollution incidents		
1990	International Convention on Oil PollutionPreparedness, Response and Cooperation	Designed to facilitate international cooperation and mutual assistance in preparing for and responding to a major oil pollution incident and to encourage States to develop and maintain an adequate capability to deal with oil pollution emergencies; covers both ships and offshore units.
1969	International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties	Affirms the right of a coastal State to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat thereof owing to a maritime casualty.
Conventions regarding liability and compensation for damage from pollution incidents		
1969	International Convention on Civil Liability for Oil Pollution Damage, 1969, and the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage	Adopted to ensure that adequate compensation would be available to persons who suffer oil pollution damage resulting from maritime casualties involving oil carrying ships; liability for such damage is placed on the owner of the ship from which the polluting oil escaped or was discharged. The 1969 Convention covers pollution damage resulting from spills of persistent oils suffered in die territory (including the territorial sea) of a State Party; applicable to ships which actually carry oil in bulk as cargo. Protocol of 1992 expands the limits of liability and widens the scope of the Convention to cover unladen tankers as well as pollution damage caused in the FEZ or equivalent area of a State Party.
Other applicable conventions		
2002	International Civil Aviation Organisation, Airport Planning Manual, Part 2: Land use and Environmental Control, 2002	Provides guidance on land-use planning in the vicinity of airports and on environmental controls for development and operations. Includes consideration of noise, air quality, effluents amongst other aspects and impacts.
1989	Convention on the Control of Transboundary Movements of Hazardous Wastes and their	The provisions of the Convention center around the following principal aims: • the reduction of hazardous waste generation and

	Disposal, 1989	the promotion of environmentally sound management of hazardous wastes; • the restriction of transboundary movements of hazardous wastes; and • a regulatory system applying to cases where transboundary movements are permissible.