# Regulating Impact Sources

Russian legislation establishes the following standards of the permissible environmental impact:

- standards of permissible emissions and discharges of substances and microorganisms;
- standards for industrial wastes production and disposal rates;
- permissible physical impact (volume of heat, noise levels, vibrations, ionizing radiation, electromagnetic potential and other physical effects);
- standards of permissible extraction of environmental components;
- standards of permissible man-caused load on the environment.

- rates of permissible environmental impact shall ensure observation of environmental quality standards with regard to environmental properties of territories and water bodies.
- For business units, technical standards (including rates of permissible discharges and emissions of substances and microorganisms) are developed as draft maximum permissible emissions rates (MPDs) for substances, polluting air, discharges rates (MPD), discharged into water and as draft waste production and disposal rates.

- Maximum permissible emission (MPE) is the mass of a substance in a gas, which is permissible for emission in the atmosphere per time unit.
- MPE is established for each certain source of atmospheric pollution (and each additive, discharged by the source). Basic MPE rates (maximum one-time emissions) are established under full load of process and gas purification equipment in its normal operation. They cannot be exceeded during any minutes period of time.
- Apart from maximum one-time rates of MPE, their annual derivatives (MPEy) are established for certain sources and business units with regard to temporary unevenness of emissions and repair periods of process and gas purifying equipment.

- The main standard of discharges of polluting substances, established in the Russian Federation, is the maximum permissible discharge (MPD), which is the amount of the regulated substance in waste waters, allowed for a business unit at a certain point of a water body per time unit, introduced in order to ensure water quality.
- MPD shall ensure that all water quality standards both, sanitary and fishery, are met under the worst hydrological scenario. MPEs and MPDs are established for every pollution source and for every impurity.
- The calculation of MPEs and MPDs is performed upon approved techniques and methods with regard to dilution rate, and contribution provided by other sources, and with regard to future development plans, etc.

- According to the Rules on Protection of Surface Waters, if waste waters are disposed into a water body within a residential area, then the regulatory requirements concern waste waters.
- However, use of water bodies within populated areas is covered by the regulations on household water use. If a business reasonably substantiates, why target MPDs and MPEs cannot be temporarily met, then temporarily approved emissions (TAE) and temporarily approved discharges (TAD) are established for a period up to five years. At the same time, it is required to develop and implement programs for phased decrease of target discharges and emissions down to indices, which ensure observation of MPDs and MPEs. In cases, when MPE and MPD targets are economically unviable, or impossible for a business to be achieved, the effective period of TAEs and TADs is extended several times, provided that a business is committed to slowly bring down pollution.

- Production and consumption wastes disposal regulations and standards are established in order to prevent their negative impact on the environment. Limitation of disposal of solid industrial wastes is ensured on the basis of “The RF Temporary Rules for Protection of the Environment from Consumption and Industrial Wastes”. It should be noted, that a coordinated process of waste disposal is the regulated and controlled processes of waste emission, collection, transportation, accumulation, storage, which envisage their further use, reprocessing management or burial.

- As the RF Water Code was adopted in 1995, a different approach on regulation was proposed, based on the establishment of standards of maximum permissible harmful effects (MPHEs) on water bodies. This means, that regulation would concern both harmful substances and other man-caused impact sources, which have a negative effect on the environment, including discharge mode of operation of hydrotechnical facilities, imposing damage on spawning grounds and facilitating erosion; heat coming in with effluents; irrecoverable water outtake (for agricultural needs, etc) etc. The basic principle, on which the MPHE standard is established, is the commitment to avoid environmental damage. The standard will be established wit regard to the background composition of water, as well as all impact sources, including the diffused ones.

- It should be mentioned, that diffused sources also contribute to pollution. Diffused sources include agricultural areas, storm run-offs from settlements, production sites, roads, etc. Calculations prove, that at populated, developed areas, diffused effluents form a majorcontribution to overall pollution. As a rule, diffused effluents are neither controlled norrecorded. These pollution sources can turn an important part of survey ensured by public environmental monitoring.
- Public environmental monitoring can also help assess compliance of businesses with the established science and technical standards through determination of concentration of substances in the environmental. Thus, it can help track impurity content, contained in the atmospheric air at the border of sanitary protection zones and water control points.

# Facility-specific emission limit values in Russia

- **Limits for “placement” (storage and disposal)** of industrial solid waste are set under the “Temporary Rules of Protecting the Environment against Industrial and Municipal Waste in RF”. “Organized placement” of waste is understood as regulated processes of generation, concentration, collection, transportation, accumulation, and temporary storage of waste, which should be carried out in compliance with set standards and rules.

| Hot Spots | Current Impact[2] | Potential Impact | Location |
|---|---|---|---|
| Noril'sk | 38.0 | 42.0 | Krasnoyarsk Krai |
| Nikel' | 37.2 | 41.2 | Murmansk Oblast |
| Zapolyarny | 37.2 | 41.2 | Murmansk Oblast |
| Monchegorsk | 31.4 | 34.4 | Murmansk Oblast |
| Kajerkan | 31.0 | 33.0 | Krasnoyarsk Krai |
| Vorkuta | 30.4 | 34.4 | Republic of Komi |
| Murmansk | 29.2 | 32.2 | Murmansk Oblast |
| Talnah | 27.8 | 29.8 | Krasnoyarsk Krai |
| *Kola Bay** | *26.8* | *28.8* | Murmansk Oblast |
| Archangelsk | 26.2 | 29.2 | Archangelsk Oblast |
| Pevek | 26.2 | 28.2 | Chukotka Autonomous Okrug |
| Bilibinsky Integrated Works | 25.8 | 27.8 | Chukotka Autonomous Okrug |
| *Dvina Bay* | *25.8* | *27.8* | Archangelsk Oblast |
| Anadyr' | 25.4 | 27.4 | Chukotka Autonomous Okrug |
| Kirovsk | 25.4 | 27.4 | Murmansk Oblast |
| *Kandalaksha Bay* | *25.4* | *27.4* | Murmansk Oblast |
| *Onega Bay* | *25.4* | *27.4* | Archangelsk Oblast |
| *Ob Bay* | 25.2 | 27.2 | Yamalo-Nenets Autonomous Okrug |
| *Eniseyj Bay* | 25.2 | 27.2 | Krasnoyarsk Krai |
| *Pechoa Bay* | *24.4* | *26.4* | Nenets Autonomous Okrug |
| Olenegorsk | 24.4 | 26.4 | Murmansk Oblast |
| Kola | 24.2 | 25.2 | Murmansk Oblast |
| Urengoisky Field | 24.0 | 26.0 | Yamalo-Nenets Autonomous Okrug |
| Kandalaksha | 23.8 | 25.8 | Murmansk Oblast |
| Solombala | 23.8 | 25.8 | Archangelsk Oblast |
| Koryazhma | 23.8 | 25.8 | Archangelsk Oblast |
| Dudinka | 23.8 | 25.8 | Krasnoyarsk Krai |
| Severodvinsk | 23.6 | 25.6 | Archangelsk Oblast |
| Yamburgsky Field | 23.4 | 25.4 | Yamalo-Nenets Autonomous Okrug |
| Inta | 23.2 | 25.2 | Republic of Komi |

# Priority Hot Spots in the Russian Arctic - Ranked List