On approval of the Rules for maintaining an automated system for monitoring emissions into the environment during industrial environmental control

Unofficial translation

Order of the Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan dated June 22, 2021 No. 208. Registered with the Ministry of Justice of the Republic of Kazakhstan dated July 22, 2021 No. 23659.

Unofficial translation

In accordance with the third part of the paragraph 4 of Article 186 of the Environmental Code of the Republic of Kazakhstan, **I hereby ORDER:**

1. To approve the attached Rules for maintaining an automated system for monitoring emissions into the environment during industrial environmental control.

2. To recognize as invalid the order of the Minister of Energy of the Republic of Kazakhstan dated September 7, 2018 № 356 "On approval of the Rules for automated monitoring of emissions to the environment during industrial environmental control and the requirement for reporting on the results of industrial environmental control" (registered in the Register of State Registration of Regulatory Legal Acts № 17543).

3. The Environmental Regulation and Control Committee of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan shall, in accordance with the procedure established by legislation shall:

1) ensure the state registration of this order with the Ministry of Justice of the Republic of Kazakhstan;

2) place of this order on the Internet resource of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan after its official publication;

3) within ten working days after the state registration of this order with the Ministry of Justice of the Republic of Kazakhstan, submit to the Department of Legal Service of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan of information on the implementation of measures provided for in paragraphs 1) and 2) of this paragraph.

4. Control over the execution of this order shall be entrusted to the supervising Vice-Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan.

5. This order shall enter into force from the date of its first official publication and shall apply to legal relations arising from July 1, 2021.

Minister of Ecology, Geology
and Natural Resources *M. Mirzagaliyev*
of the Republic of Kazakhstan

"AGREED"

Ministry of Trade and Integration
of the Republic of Kazakhstan
"AGREED"
Ministry of Emergency Situations
of the Republic of Kazakhstan
"AGREED"
Ministry of Digital Development,
Innovation and Aerospace
Industry of the Republic of Kazakhstan
"AGREED"
Ministry of Energy
of the Republic of Kazakhstan

Approved by order
of the Ministry of Ecology,
Geology, and Natural Resources
of the Republic of Kazakhstan
dated June 22, 2021 № 208

Rules for maintaining an automated system for monitoring emissions into the environment during industrial environmental control

Chapter 1. General provisions

1. These Rules for maintaining an automated system for monitoring emissions into the environment during industrial environmental control (hereinafter referred to as the Rules) have been developed in accordance with part three of paragraph 4 of Article 186 of the Environmental Code of the Republic of Kazakhstan (hereinafter referred to as the Code) and shall determine the procedure for maintaining an automated system for monitoring emissions into the environment during industrial environmental control.

2. The basic concepts and definitions shall be used in these Rules:

1) facility operator - an individual or legal entity whose property or other legal use shall be the facility that has a negative impact on the environment;

2) continuous measurements - round-the-clock measurements that allow breaks for repair work, elimination of defects, commissioning, verification, calibration works;

3) automated environmental emission monitoring system - automated industrial environmental monitoring system, monitoring the indicators of emissions into the environment on the main stationary sources of emissions, which ensures the transfer of data to the information system for monitoring emissions to the environment in real time in accordance with the rules for maintaining an automated system for monitoring emissions to the environment during industrial environmental control, approved by the authorized body in the field of environmental protection;

4) abnormal shutdown of the automated emission monitoring system - cases of shutdown due to malfunction, failures, failure and deviation in operation or violation of the integrity of the automated monitoring system as a whole or its components, or technological equipment where it is installed;

5) planned shutdown of the automated emission monitoring system - cases of shutdown of measuring instruments for maintenance in accordance with the technical documentation of the equipment and the maintenance plan or repair of the emission source on which the automated monitoring system is installed, shutdown of the technological process of enterprises.

Other concepts and definitions used in these Rules shall apply in accordance with the legislation of the Republic of Kazakhstan in the field of environmental protection.

3. The implementation of these Rules in accordance with Article 184, paragraph 2, subparagraph 3) of the Code shall be carried out in the following cases:

1) when designing and operating automated monitoring systems for pollutant emissions into the atmosphere from the main organized stationary sources, for the main wastewater discharges into water bodies or on the terrain for objects of category I;

2) when introducing new sources of emissions falling under the criteria of these Rules, it is necessary to provide for the equipment of an automated monitoring system;

3) in case of initiative establishment of automated monitoring system by operators of facilities for production environmental monitoring.

4. For facilities commissioned before July 1, 2021, the requirement for the mandatory availability of an automated emission monitoring system shall be established from January 1, 2023.

5. When carrying out automated monitoring of emissions during industrial environmental control, measuring instruments with a valid certificate of approval of the type of measuring instruments are used and verified in accordance with Article 19, paragraph 1 of the Law of the Republic of Kazakhstan "On ensuring the uniformity of measurements."

6. The use of single copies of measuring instruments that have passed metrological certification, based on the results of their verification and (or) calibration, shall be carried out in accordance with Article 19, paragraph 1 of the Law of the Republic of Kazakhstan " On ensuring the uniformity of measurements."

7. The organization of the information system for monitoring emissions into the environment shall be carried out by the authorized body in the field of environmental protection. The information system for monitoring emissions to the environment shall be maintained by the subordinate organization of the authorized body in the field of environmental protection.

8. The automated emission monitoring system shall be designed for:

1) monitoring of emissions to the environment by quantity, quality of emissions and their amendments;

2) monitoring compliance with the standards of permissible emissions, discharges of pollutants and mass concentration of pollutants;

3) assessing the effectiveness of measures to reduce the hazardous impact of pollutants on the environment;

4) accounting of emissions, discharges of pollutants based on the results of continuous measurements, preparation of reports on industrial environmental control;

5) automated data collection from emission sources.

Chapter 2. Procedure for maintaining an automated system for monitoring emissions into the environment during industrial environmental control

9. The automated system for monitoring emissions into the environment within the framework of industrial environmental control shall be carried out by the facility operator by establishing measuring instruments that carry out continuous measurements of quantitative and qualitative indicators on organized emission sources, according to the project developed by the facility operator or a third-party organization.

10. The design of the automated emission monitoring system shall be part of the design documentation for construction and (or) operation or other design documents for obtaining environmental permits.

11. The automated emission monitoring system shall be installed on the main stationary organized emission sources that meet one of the following criteria:

1) gross emission of pollutants into the atmosphere of 500 or more tons per year from one stationary organized source;

2) for sources at stations operating on fuel, except for gas, with a total electric capacity of 50 MW or more, for boiler houses with a thermal capacity of 100 Gcal/h or more; for sources of power producing organizations operating on gas, with a total electric capacity of 500 MW or more, for boiler houses with a thermal capacity of 1200 Gcal/h or more.

12. Pollutants subject to continuous monitoring of emissions provided that the established standard shall be:

1) nitrogen oxides (oxide and nitrogen dioxide);

2) carbon oxide;

3) sulfur dioxide;

4) dust (soot, suspended particles, RM-2.5, RM-10);

5) hydrogen sulfide;

6) marker substances of the production process.

13. The information obtained using the automated emission monitoring system shall include:

1) concentrations of pollutants averaged over twenty minutes in milligram/cubic meter (mg/m3);

2) oxygen concentration and/or excess air ratio (%, a);

3) emissions of pollutants averaged over twenty minutes, gram/second (g/s);

4) temperature of exhaust gases (0C);

5) overpressure (underpressure) in kilopascal (kPa);

6) humidity,% (or concentration of water vapors, mg/m3);

7) exhaust gas flow rate, meter per second (m/s) and/or volume of gas-air mixture in normal cubic meter (nm3/s);

8) the current time value (hours, minutes, seconds, day, month, year).

14. Flare emissions shall be monitored by monitoring the flow rate, density and composition of the gas sent to the flare. The following parameters shall be defined for monitoring emissions from flares:

1) volumetric gas flow rate (m3/h or m3/s);

2) gas density (kg/m3);

3) composition (in mole%) according to the analyzer of the following gases (in case of emissions in the amount of more than 10 tons per year): hydrogen sulfide (H2S), carbon oxide-sulfide (COS), carbon sulfide (carbon disulfide - CS2) and mercaptans.

15. The automated emission monitoring system shall provide measurement of emission indicators of pollutants regulated in accordance with the draft emission standard, continuous data transmission to recording equipment, and meets the requirements of GOST 17.2.4.06-90 "Methods for determining the speed and flow rate of gas-dust streams leaving stationary pollution sources"; GOST 17.2.4.07 "Methods for determining the pressure and temperature of gas-dust streams leaving stationary pollution sources," GOST 17.2.4.08 "Methods for determining the humidity of gas-dust streams leaving stationary pollution sources."

16. When choosing the layout and installation of control points of the automated monitoring system and types of measuring instruments, design solutions are made taking into account the conditions of equipment layout, type of process equipment, its design features, process parameters, safety requirements, and ease of maintenance.

17. Wastewater discharges diverted from a category I facility to a surface water body or to the terrain (with the exception of ponds of evaporators and accumulators) are subject to equipment with an automated monitoring system according to the following parameters:

1) temperature (C0);

2) flowmeter (m3/h);

3) hydrogen index (pH);

4) electrical conductivity (mC -mixrosimens);

5) turbidity (EMF units of turbidity by formazine per liter).

Footnote. Paragraph 17 as amended by the Order of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated 08.06.2023 № 185 (effective ten calendar days after the date of its first official publication).

18. The location of the automated emission monitoring system shall provide measurement of the indicators on the basis of which the system determines the quantitative and qualitative

indicators of pollutants, normalized in accordance with the project emission standards, and continuous data transfer to the recording equipment.

19. Information on sources subject to continuous monitoring through an automated emission monitoring system shall be provided in the industrial environmental control program , which is part of the environmental permit, as well as the program to improve environmental efficiency.

20. The facility operator shall ensure continuous transmission of reliable information on actual pollutant emissions to the information system for monitoring emissions to the environment averaged for every 20 minutes.

21. The reasons for disconnecting the automated monitoring system shall be the planned and abnormal disconnection of the automated monitoring system.

22. It shall not be allowed to stop the automated emission monitoring system in order to influence the results of measurements and changes in equipment readings.

23. In case of shutdown of measuring instruments or shutdown of the main process equipment, the operator shall ensure preservation of measurement results and accounting of indicators, with registration of time and date of shutdown and resumption of measuring instrument operation.

24. In case of planned shutdown of the automated emission monitoring system, the facility operator shall notify the territorial authorized body in writing no later than thirty (30) calendar days before the date of planned shutdown, in case of abnormal shutdown within two hours according to the form specified in Annex 1 hereto (in case of discharges where collection is carried out intermittently, a discharge schedule is provided).

25. During the scheduled shutdown of the automated monitoring system, the facility operator shall ensure the transition to weekly instrumental control (if it is impossible to use the calculation method), during the abnormal shutdown it shall provide daily instrumental control in the enterprise impact area (or data from automated posts).

26. The basis for conducting preventive control with a visit to the subject (object) of verification based on the results of data from the automated system for monitoring emissions to the environment shall be the excess of 150% and more than percent of the averaged indicators of mass concentrations per calendar day in accordance with Article 174, paragraph 3 of the Code.

27. Notifications on exceeding the established emission standards according to the data of the automated monitoring system, on volley emissions, including information for possible reasons, on malfunctions in the operation of the equipment, indicating the period, are submitted by the facility operators monthly with an explanation to the territorial authorized body in the field of environmental protection in accordance with Annex 2 to these Rules.

28. Automated monitoring system software shall include:

1) software of a legal entity carrying out economic and other activities at a facility of category I, stationary sources of which shall be equipped with an automated emission monitoring system, as well as technical means for recording and transmitting information;

2) software and hardware of third-party organizations providing data transfer services to the information system of the authorized body in the field of environmental protection.

29. Automated monitoring system software shall provide:

1) reception of information received from the automated emission monitoring system;

2) transmission of information on the results of measurements of emissions (concentrations) of pollutants in accordance with Annex 3 to these Rules, averaged for every 20 minutes. The transfer is carried out using a SOAP service signed with an electronic digital signature of a legal entity, or through a REST service using the JSON format.

3) storing the transmitted information with registration of the time and date of shutdown and resumption of operation of automatic measuring instruments in case of their shutdown;

4) identification of production facilities and each specific source of pollutant emissions and pollutant discharges into the information system of the authorized body;

5) reliability of information reception and transmission, prevention of its distortion.

Footnote. Paragraph 29 as amended by the Order of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated 08.06.2023 № 185 (effective ten calendar days after the date of its first official publication).

30. The software provided for in paragraph 28 of the Rules hereof shall:

1) conducting tests for compliance with information security requirements in accordance with Article 49, paragraph 2, subparagraph 6) of the Law of the Republic of Kazakhstan "On Informatization";

2) transfer of data to the information system for monitoring emissions to the environment through the integration of information systems, in accordance with Article 44, paragraph 1 of the Law of the Republic of Kazakhstan "On Informatization";

3) storing the results of measurement and recording of information with registration of the time and date of shutdown and resumption of the automated monitoring system;

4) calculation of checksum of automated monitoring system software;

5) storage of information received from the automated monitoring system for at least five years;

6) comparison of the checksum of the software of the automated monitoring system with the checksum of the permissible for this system.

Annex 1
to Rules for maintaining
an automated system
for monitoring emissions
into the environment during
industrial environmental
control
Form

Notification of periods of shutdown of the automated monitoring system at the emission source

Name of the enterprise (organization) _____

Production area, source name _____

Name, type of measuring complex	Date and time of shutdown of the automated monitoring system (hereinafter referred to as the AMS)	Cause of AMS shutdown (scheduled/ abnormal repairs/ verification, etc.)	Repair type: planned/ operational	Description of works performed	Work time	Date and time of AMS launch	Performer	Note
1	2	3	4	5	6	7	8	9

Annex 2
to Rules for maintaining
an automated system
for monitoring emissions
into the environment during
industrial environmental
control
Form

Notifications of exceeding the established emission standards according to the data of the automated monitoring system

Source name and number	Actual values (one-time, daily average) milligram per cubic meter (mg/m3)	Standards of maximum permissible emissions (MPE) of milligrams per cubic meter (mg/m3), Maximum permissible concentration (MPC) of milligrams per decimeter cubic meter (mg/dm3)	Exceeding standards	Period (date, time) of excess	Date and time of elimination of excess	Reasons for exceeding	Measures to eliminate excesses
1	2	3	4	5	6	7	8

Appendix 3
to the Rules for Maintaining
an automated system

for monitoring emissions
into the environment during
industrial environmental control

Footnote. The Rules are supplemented by Appendix 3 in accordance with the Order of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated 08.06.2023 № 185 (effective ten calendar days after the date of its first official publication).

Form

Results based on measurements of emissions of pollutants into the atmospheric air

The source of the emission		Current time value		Name of pollutants	The established standard for NDV, EIA		The actual result		Oxygen concentration or	Exhaust gas temperature	Overpressure (vacuum)	Humidity	Concentration of water vapor	Exhaust gas flow rate	Volumetric flow rate of the gas-air mixture
name	Number	Day, month, year	Hours, minutes, seconds						Excess air ratio						
					mg/m3	g/s	mg/m3	g/s	%	^{0}C	kPa	%	mg/m3	m/s	nm3/s
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Results of emission monitoring at flare installations

The source of the emission		Current time value		Name of pollutants	Volumetric gas consumption	density	gas composition
Name	Number	Day, month, year	Hours, minutes, seconds		m3/h, m3/s	kg/m3	in moles %
1	2	3	4	5	6	8	9

Results based on wastewater measurements

Name of the affected object, coordinates	Coordinates of the wastewater discharge site (outlet number)	Current time value		Name of indicators	Standards/ background indicators	The actual result
		Day, month, year	Hours, minutes, seconds			
1	2	3	4	5	6	7