

**ESPI-2023**

**ПРОБЛЕМЫ ИЗУЧЕНИЯ И ОХРАНЫ  
ОКРУЖАЮЩЕЙ СРЕДЫ — 2023**

**СБОРНИК НАУЧНЫХ ТРУДОВ**  
молодежной научно-практической конференции  
на иностранных языках с международным участием

Москва, 21 апреля 2023 г.

В двух частях  
**ЧАСТЬ 1**

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**ENVIRONMENTAL STUDIES  
AND PROTECTION ISSUES — 2023**

**Proceedings of the International  
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Москва, April 21, 2023

In Two Parts  
**PART 1**



Москва  
2023

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ  
РОССИЙСКОЙ ФЕДЕРАЦИИ  
Федеральное государственное автономное  
образовательное учреждение высшего образования  
«РОССИЙСКИЙ УНИВЕРСИТЕТ ДРУЖБЫ НАРОДОВ  
ИМЕНИ ПАТРИСА ЛУМУМБЫ»

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УДК 502/504:378.147.88  
ББК 20.1с  
Е54

Утверждено  
РИС Ученого совета  
Российского университета  
дружбы народов

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Е54      **ESPI–2023. Проблемы изучения и охраны окружающей среды — 2023 = Environmental Studies and Protection Issues — 2023** : сборник научных трудов молодежной научно-практической конференции на иностранных языках с международным участием. Москва, 21 апреля 2023 г. : в 2 частях. — Москва: РУДН, 2023.

ISBN 978-5-209-11915-9

Часть 1. — 411 с. : ил.

ISBN 978-5-209-11916-6

Сборник содержит материалы научных трудов Молодежной научно-практической конференции с международным участием «Проблемы изучения и охраны окружающей среды — 2023» (Москва, 21 апреля 2023 г.). В работе конференции принимали участие ученые, докторанты, аспиранты, магистранты и студенты российских и зарубежных вузов, сотрудники научно-исследовательских учреждений и производственных предприятий.

ISBN 978-5-209-11916-6 (ч. 1)  
ISBN 978-5-209-11915-9

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дружбы народов, 2023

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## **IEC PROGRAM: REQUIREMENTS AND ADVANTAGES**

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**Abstract:** Nowadays, environmental problems are becoming more and more threatening. In this regard, it becomes critically important to control the state of the environment, in particular wastewater treatment and disposal. One of the instruments of such control can be IEC Program.

**Key words:** IEC program, industrial environmental control, environment, emission inventory, IEC implementation report

### **1. INTRODUCTION**

In the context of accelerated scientific and technological development and the rapid growth of industrial production, environmental protection has become one of the most important problems of our time. This is due to the fact that with the development of the productive forces of society, the growth in the use of production resources, there is

increasing pollution of the environment with production waste, and the quality of the human environment and other living organisms is deteriorating.

In this situation, the environmental protection role of the processes and apparatuses of environmental protection is increasing, aimed at creating environmentally friendly industries and using the achievements of science and technology to solve such problems as wastewater treatment and disposal. In this case, an important role is played by industrial environmental control — a process that allows you to manage hazardous emissions, discharges and waste at the enterprise.

## 2. METHODOLOGY

In accordance with Federal Law 7-FZ, dated 10 Jan. 2002. “On Environmental Protection”, it is necessary that the enterprise has a permanent program of industrial environmental control (IEC). Enterprises working with waste of 1, 2 and 3 hazard classes must carry out this activity without fail. Such enterprises need to develop an IEC program, as well as regular reporting activities based on the results of industrial environmental control to regulatory authorities in the form of reports of an approved form. Failure to comply with the requirements is threatened with fines and the risk of stopping production.

## 3. RESULTS

**3.1. Content and approval of the IEC program.** The content of the document regulating activities for the control of environmentally hazardous waste at the production site is determined by the requirements of the Order of the Ministry of Natural Resources of the Russian Federation 109, dated 18 Feb. 2022, “On approval of the requirements for the content of the industrial environmental control program, the procedure and deadlines for submitting a report on the organization and the results of industrial environmental control”. This document highlights the following mandatory sections:

1. *General information about the object:* details of the enterprise (name, address, and others) Also in this section is indicated the body where the reports are sent, and the date when the IEC program was approved;

2. *Emissions inventory* — determination of the list of substances, equipment from which hazardous substances are emitted; the concentration of these substances, as well as the parameters of the emission of the gas mixture. The results of the emission inventory should be kept at the enterprise. The inventory report subsequently serves to develop a project for maximum allowable emissions (MAE), as well as for example, to establish a sanitary protection zone;

3. *Discharge inventory*. These data are determined in accordance with the draft norms for permissible discharges (NPD);

4. *Waste inventory*. This section describes what wastes are generated during production activities, where they are stored and how they are disposed of at municipal solid waste (MSW) landfills;

5. *Officials and divisions*. This section should contain information about employees, heads of departments responsible for maintaining the IEC program for employees. This section also indicates who approves the IEC program;

6. *Testing involved laboratories*. These may be their own divisions or third-party organizations accredited in accordance with the federal legislation of the Russian Federation and other regulatory documents;

7. *Frequency of control*. This section describes the frequency of control procedures for emissions, effluents and waste. It also indicates the methods by which estimates and measurements are supposed to be carried out, and sampling sites are listed. Schedules for carrying out inventories and studies are being drawn up.

**3.2. IEC program requirements.** Despite the optional coordination with regulatory authorities, the IEC report has approved requirements for the form and content, formulated in the Order of the Ministry of Natural Resources of the Russian Federation 261, dated 14 Jun. 2018, “On approval of the requirements for the content of the program of industrial environmental control, the procedure and deadlines for submitting a report on the organization and on the results of the implementation of industrial environmental control”:

1. Information about the organization. If the object belongs to the first hazard class, the technologies used on it are indicated. Lists the laboratories whose research was used in the course of environmental control;

2. Results on the protection of atmospheric air. Types of stationary sources of emissions under regular monitoring control of violations of

samples in accordance with the MPE standards. Information on measurements at MPC control points;

3. Results on the protection of water resources. How much water was withdrawn, how much wastewater was discharged. It is obligatory to indicate information about the controlling organization and the date of sending the results of the discharge quality check to it. The results of monitoring the efficiency of treatment facilities are reported;

4. Results on hazardous waste management. It is a list of letters sent by the organization with reports on the results of monitoring. The rows of the table indicate the numbers, dates and names of the territorial offices of Rosprirodnadzor that received these letters.

**3.3. Required reporting on the implementation of IEC procedures.** Using the reports approved in Order 261 dated June 14, 2018, the form of the Ministry of Natural Resources of the Russian Federation controls the implementation of the procedures prescribed by the approved IEC program. It is compiled and provided annually.

The deadline for delivery is determined in order 109 of the Ministry of Natural Resources of the Russian Federation — until March 25 of the year following the reporting one. You can sign it with a regular signature or an electronic one. A completed form is provided at the actual location of production, that is, to the territorial office of Rosprirodnadzor. One copy is sent in paper and electronic form to the regulatory authority. The enterprise retains the second one and stores it together with the rest of the environmental documentation for subsequent presentation during verification.

The report does not require mandatory approval by the regulatory authorities. In fact, this is a declaration of environmental procedures performed by the organization. At large enterprises, it is usually prepared by full-time environmentalists and approved by the head. But this work can also be entrusted to a third-party organization. This will allow you to unload your specialists and ensure that you fulfill the requirements for its preparation.

#### 4. CONCLUSIONS

An industrial environmental control program at the enterprise has many benefits, including:

- Reducing the negative impact of production on the environment.

The program allows you to determine what types of waste and emissions

are generated in the production process and develop measures to reduce or eliminate them.

- Compliance with legislation in the field of environmental protection. The program allows you to track the compliance of production activities with the requirements of legislation in the field of environmental protection.

- Reduced risk of fines and lawsuits. By complying with environmental legislation, the company avoids fines and lawsuits related to violations of environmental regulations.

- Improving the reputation of the enterprise. Currently, more and more consumers are paying attention to the environmental aspect of production and are ready to choose goods and services produced by enterprises operating in line with high environmental standards.

- Reducing waste disposal costs and resolving environmental impacts. The program allows rational use of resources and reduces the amount of waste generated, which in turn reduces the cost of their disposal. In addition, the need for work to eliminate environmental consequences is reduced.

- Increasing production efficiency. The program allows you to identify inefficient processes and resource-intensive operations, which helps to optimize the production process and increase its efficiency.

In general, the program of industrial environmental control at the enterprise allows improving the environmental image of the enterprise, reduce costs and risks, increase production efficiency and comply with the requirements of legislation in the field of environmental protection.

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## **THE IMPACT OF CLIMATE CHANGE ON HEALTH AND ADAPTATION OF THE POPULATION IN TURKMENISTAN**

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**Abstract:** This article focuses on the impact of climate change on health and adaptation in Turkmenistan. The impact of bioclimatic indicators on the health of the population in a changing climate has been determined. The problems of human acclimatization and adaptation in a changing climate were studied.

**Key words:** climate change, public health, adaptation, medical classification of weather

### **1. INTRODUCTION**

Climate change is one of the greatest challenges facing the world today. We see the effects of climate change: droughts and floods, changes in the frequency and amount of precipitation, melting glaciers. Climate is an integral part of the environment, which largely determines the conditions for human livelihoods.

The IPCC report describes the credibility of the impact of climate change on health using five qualitative ratings: very low, low, medium, high and very high. According to the report, health in a changing climate will deteriorate because of the following effects: very high confidence is associated with changes such as increased risk of injury, disease and death from heat waves, storms, floods and forest fires; high confidence is associated with the risk of malnutrition due to food shortages in dry areas. Also of high credibility are the risks associated with poor food