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ANALYSIS OF THE IMPACT OF INDUSTRIAL ENTERPRISES ON PUBLIC HEALTH ON THE BASIS OF MODERN PROJECTS

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Abstract

This article discusses the impact of harmful substances on human health in the production of building materials and measures to prevent negative consequences. And also, information about the health of the population of the Samarkand region. And also, this article describes the preparation of initial data for the calculation of surface concentrations of pollutants, the use of inventory materials. Calculation of the dispersion of pollutants into the atmosphere according to universal programs. And also, the rules for the field of dispersion of pollutants in the surface layer of the atmosphere are given.

Keywords: population, production, nitrous oxide, carbon monoxide, respiratory diseases, human health, industrial enterprises, construction materials.

Introduction

One of the solutions to the problems related to the improvement of the ecological condition of the construction industry should be begun at the design and reconstruction stage of enterprises, the selection of environmentally friendly technologies and materials, as well as environmentally safe equipment and installations. At the same time, every specialist in the construction industry should be able to choose the optimal designs for dust, gas and water treatment plants, and be fluent in environmental monitoring methods. Building materials in the course of their

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processing, transportation, construction and operation emit certain pollution into their environment. The release of these contaminants is due to the different properties of building materials, some of which are chemical properties. Ca, Ma, K, Si, Fe.

A large number of small sources can significantly pollute the air. Low sources are those in which the emission is carried out below 50 m, and high sources are those in which the emission is above 50 m. Heated sources are conventionally called sources where the temperature of the emitted gas-air mixture is above 50 °C; at a lower temperature, the emissions are considered cold.

The emissions of enterprises of various industries and transport contain a large number of different harmful impurities. Over the past decade, serious practical steps have been taken that would significantly change the attitude of the human community to nature, to the problem of its conservation, in order to ensure the sustainable development of future generations. The bank of unresolved environmental problems continued to increase. There are many reasons for this, and not the least of them is the low professionalism of professionals who make decisions in the field of environmental protection, in the field of its protection from industrial waste. This fully applies to the problem of protecting atmospheric air from dust-gaseous emissions. [1]

Methods

Preparation of initial data for calculations of surface concentrations of pollutants is carried out on the basis of inventory materials. This takes into account the parameters of emission sources, the presence of dust-gas cleaning equipment and its efficiency, the boundary coordinates of the company in accordance with the General plan, the coordinates of the emission sources, the borders of residential areas in accordance with the situational plan.

To calculate the dispersion of pollutants into the atmosphere, in addition to the parameters of the emission sources, the following initial data are required:

* climatic and meteorological characteristics and coefficients that determine the conditions for the dispersion of pollutants in the atmospheric air in the area of the enterprise location in the form of a table in Annex №1.
* data on the coefficient that takes into account the sedimentation rate of impurities;
* coefficient of relief.

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Meteorological characteristics are taken according to the data of the nearest weather station to the enterprise. [2]

The aim of the research is to reduce the excessive pollution of the atmosphere by pollutants and dust emitted from sources in industrial, construction and other manufacturing enterprises in industrialized areas. It is important to analyze and scientifically substantiate them in modern computer programs based on the state of the environment in which enterprises operate. Scientific novelty is the impact of industrial enterprises on the atmosphere and cases of excessive pollution have been studied in Samarkand region and in a particular region. In addition, the scope of impact of enterprises on the environment has been implemented on the basis of today's modern projects. [3]

At the moment, the surveyed industrial and construction companies will be able to create a database on ventilation networks, dust collection equipment and give recommendations on reducing dust emissions by analyzing atmospheric dust. As part of this study, the laboratory of microclimate and environmental protection of Samarkand State Institute of Architecture and Construction analyzes pollutants in the atmosphere based on long-term data on water, soil and atmospheric air. For the first time, a comprehensive analysis of dust and other pollutants emitted into the environment by industrial and industrial enterprises is carried out. [4]

Table. 1The climatic and meteorological characteristics taken as the initial data for the calculation of the dispersion of pollutants.

Indicator name	Designation	Dimension	Meaning
Coefficient depending on the stratification of the atmosphere	A		
Terrain factor	N		
Average air temperature in 13 hours:			
the hottest month of	Tzh	C	
the coldest month	T	C	
Wind speed, the probability of exceeding it in a year is 5 %	U		
Average annual wind speed	N	m / s	
Average annual repeatability of wind directions by points	NE	m / s	
	E	%	
	SE		
	S		
	SW		
	W		
	NW		
	Calm		

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Analyses and calculations

The object under consideration of LLC "Samarkand Uzbekgazsuv Kurilish" with the existing asphalt concrete plants is located in the industrial zone of the city of Jambay, Jambay district, on its own territory. The nearest localities are: Djambay remote East at 70 m and Hasdal remote village on the South by 300 m. the wind rose is directed in such a way that pollutants will be directed away from residential buildings, i.e. to the west. 280 m from the site from the south there is a railway, followed by a local road. From the east, 300 m away, there is also a road leading to the city center. The M-39 highway runs from north-east to south-west at 530 m.

The area where the ABZ site is located has an agricultural and industrial orientation of management, where along with agricultural branches – cotton growing, there are enterprises of the construction industry. From the north, 70 m from the enterprise under consideration, there is a flour mill, from the sources of emissions, the flour mill will be 265 m. The wind rose is directed in such a way that the pollutants will be directed to the west.

The object is located on the right bank of the Zerafshan River, in the central part of the Zerafshan valley at an altitude of 650-750 m on a vast plain with a general slope from the south-east and south to the north-west and north. In 140-150 km to the west of the Zerafshan Valley, it greatly expands and in this area is directly adjacent to the Kyzylkum desert. From the south, the valley is bordered by the mountains Chakyl Kalyan, Karate and Ziyatdin-Zirabulak, the absolute heights of which reach 2200-2500 m, to the west the mountains fall. From the north, the valley is bounded by the Nurata Mountains, the average height of which reaches 1400-1700m. [5]

Table 2 General data on approximate calculations of emissions of pollutants into the atmosphere of the area where the structure is located

№	Name of the company	MPC, a. v mg/m3	Hazard class	Number of sources	Quota	Actual discharge mg/m3
1	Hydrocarbons	1,0	4	2	0,5	0,034
2	Nitrogen dioxide	0,085	2	2	0,25	0,23
3	Nitric oxide	0,6	4	2	0,33	0.019
4	Sulfur dioxide	0,5	3	2	0.33	0,0066
5	Carbon monoxide	5,0	4	2	0,5	0,017

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It was determined that the harmful substances emitted from the asphalt concrete plant did not exceed the permissible limit based on the results of the analysis.

The calculation of the concentrations of pollutants in the atmospheric air was carried out according to the "Ecologist" program. The initial data was taken from the parameters of the emission sources. Meteorological characteristics and coefficients that determine the degree of dispersion of chemicals into the atmosphere.

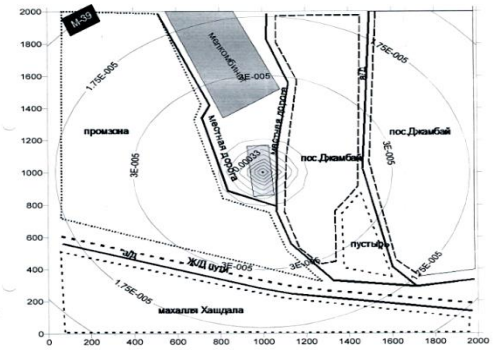

Fig. 1. Hydrocarbons.

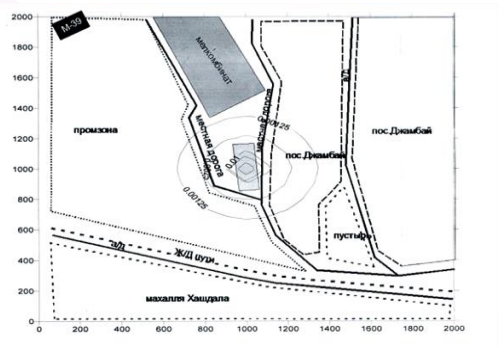

Fig. 2. Nitric oxide.

Discussion

The value of the coefficient that takes into account the rate of subsidence is assumed:

* for gaseous substances and fine aerosols (dust,
ash, the rate of ordered settling of which is almost zero) -1;

* for fine aerosols (other than those specified) with an average operational emission cleaning factor of at least 90 % -2; from 75 to 90 % -2.5; less than 75% and in the absence of cleaning-3.

The calculation of the dispersion of pollutants is carried out outside the industrial site, in the fractions of the MPC a.v for the atmospheric air of settlements. Map of the fields of pollutant dispersion in the atmospheric surface layer must contain the numbers of maximum concentrations in fractions MPC a.v. in the nodes of the computational grid and clearly marked boundary of the industrial site. [6]

Conclusion

Consider the effect of some building materials on human well-being. One of the most common chemical carcinogens in the environment is the aromatic hydrocarbon benzopyrene, which is formed as a result of high-temperature processes of thermal processing of organic raw materials, incomplete combustion. Thus, increasing the concentration of benzopyrene in the air for

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every nanogram per 1 cubic meter increases the cancer disease by 0.4 per 100 thousand of the population. Carbon monoxide (CO) is the most common and most significant admixture of the atmosphere, commonly called carbon monoxide in everyday life. CO content in natural conditions is from 0.01 to 0.2 mg / m^3.

For all harmful impurities, the content of harmful substances abroad, the enterprises will not exceed the quotas established for them. The enterprises of LLC "Samarkand Uzbekgazsuv Kurilish" do not affect the higher concentration on the environment, mainly in the atmospheric air polluting chemicals, the concentrations of which will not exceed the established quotas, and therefore can not affect the environmental situation of the area.

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