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ANALYSIS OF INDUSTRIAL AND ENVIRONMENTAL SAFETY MANAGEMENT SYSTEMS

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ABOUT ARTICLE

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Abstract: The purpose of the research is to improve the ecological environment in industrial enterprises, to make effective use of general protective equipment against harmful substances, to establish its wider application, and to find a solution to the problem by studying the negative effects of harmful substances emitted from industrial enterprises, and to find a solution to the problem of harmful substances. development of recommendations for risk reduction.

INTRODUCTION

Uzbekistan, among many developed countries, entered the new millennium with global problems of a socio-economic, demographic and environmental nature. Intensive use of natural resources, disposal of unusable products of production that are not part of the natural cycle of substances into the environment, use of ecologically dangerous biotechnologies, energy sources, etc. have led to a violation of the balance between human activity and the state of the surrounding environment. . In most cases, there is a mismatch between living activities of living organisms and the capabilities of their adaptive mechanisms in disturbed environments, [1].

Solving theoretical and practical issues in the field of industrial and environmental safety management system analysis, reducing the release of harmful substances from industrial enterprises and motor vehicles into the environment and the impact on living organisms in the CIS countries (Polinskaya 1979, Siganyok , 1988 Pakalov, 1994 Silveira 2005 Shilin, 2011 Roshupkin, and others). Among the scientific researches, among the scientists of our Republic, N.Norboev, P.Zakirov, E.Khudayberdiev, I.Samatov, O.Qudratov, M.Musayev and many other authors conducted researches in the methods of purification of atmospheric air pollutants and other areas. . At the same time, despite many years of research

experience, scientists' interest in this topic has not lost its relevance. Studying the analysis of industrial and environmental safety management systems is of actual scientific and practical importance.

According to the latest statistical analysis, 181 enterprises in the republic cause a certain amount of damage to the atmosphere, and 808 thousand tons of emissions are released from them into the environment per year.

In this place, the Decree No PF-5024 of April 21, 2017 "On improving the state management system in the field of ecology and environmental protection" and "On measures to ensure the activities of the State Committee for Ecology and Environmental Protection of the Republic of Uzbekistan" of this day In order to ensure the decision PQ-2915 of the Cabinet of Ministers and in accordance with the Cabinet of Ministers' decision No. 310 of May 23, 2017, the "Regulations on the State Committee for Ecology and Environmental Protection" of the Republic of Uzbekistan is of great importance in finding a solution to the above-mentioned issues, [2, 3, 4].

The relevance of the topic: dust can affect the organs of vision, cause inflammation (conjunctivitis), professional cataracts and have a strong sensitization effect on the mucous membrane and cornea of the eye, skin pollution, various it has been studied that the dust in the composition causes various types of dermatitis and eczema.

The effect of dust on the body in different forms was analyzed by determining their chemical composition. The main effect of dust is first of all when it is inhaled. Breathing dusty air can lead to the development of damage to respiratory organs: bronchitis, pneumoconiosis or general damage. Some dusts have the property of causing additional diseases. These include diseases of the upper respiratory tract, mucous membrane of the eyes, and skin. The entry of dust into the lungs is the most serious problem, as it creates conditions for the development of pneumonia, tuberculosis, and lung cancer.

Ways to solve the problem. We recommend the following suggestions to solve the problem of cleaning dust and harmful substances in industrial enterprises

Localization of air dust cleaning devices, expansion of production of these devices in the territory of Uzbekistan.

Development of theoretical and practical recommendations based on strengthening of environmental control in enterprises producing construction materials, studying the degree of environmental deterioration in enterprises and the level of compliance with environmental requirements.

Analysis of the obtained results. We have analyzed that scientific and technical achievements are of leading importance in the development of the society of production forces, facilitate the use of natural resources by man, accelerate the circulation of substances, and make it possible for the role of the social factor to be higher than the natural factors in the development of the society. As a result, a person becomes more and more free from direct dependence on the natural environment due to work, and increases his influence on nature. Factors such as the increase of industrial enterprises, the chemicalization of agriculture, the increase in the number of people and motor vehicles lead to the release of various dust and gas emissions, the amount and type of wastewater, and solid waste into the environment the interaction between nature and society is of particular importance in solving it scientifically.

In places where man has a strong impact on nature, ecological stress and sometimes catastrophes are occurring, that is, the feedback effect of nature on human influence is clearly felt. The great ones said about this: "Let's not be too proud of our victories over nature. "He will take revenge on us for every such victory." Annually, 2.5 billion tons of gas waste containing sulfur IV oxide, carbon II, IV oxides are released from various enterprises. For example, up to 150 million tons of CO2, 70 million tons of dust per year are emitted by construction enterprises, ferrous and non-ferrous metallurgy and other enterprises. Gases emitted from motor vehicles are the main cause of atmospheric air pollution. The gas produced by the incomplete combustion of fuel in these internal combustion engines consists of a mixture of 200 different highly toxic gases, including CO, CO2, paraffinic and olefinic hydrocarbons, aromatic compounds, aldehydes, nitrogen oxides, such as tin compounds. Among these gases, 3,4-benzopyrene, a poisonous substance with carcinogenic properties, makes up 30 percent. These gases cause the formation of smog, a phenomenon that is harmful to living organisms in many cases.

A large amount of dust emissions into the atmospheric air leads to a change in the speed and spectrum of solar radiation, as well as worsening the air clarity.

For example, this table shows the dynamics of air pollution in the city of Tashkent.

A pollutant substances, mln.t/year	2004-2008	2009-2013	2014-2016	2017-2021
Dust	2.9	2.8	1.3	1.3
sulfur oxide	2.4	2.6	0.4	0.2
carbon monoxide	0.3	0.9	0.7	1.0

Nitrogen II oxide	2.0	2.2	1.9	2.0
Phenol		0.9	1.6	1.3
Hydrogen fluoride			1.4	0.4
Ammonia		4.5	0.9	1.2
Lead		1.3	1.1	0.6
3 4 benzopyrene			0.5	0.7
Formaldehyde		7.3	1.7	1.7
Ozone		1.5	2.7	0.8
Hydrogen peroxide	1.6	1.4		0.3
Acrolein		0.6		
Mercury		1	1.0	0.7
Serocarbon			1.2	1.2

According to the level of air pollution, Uzbekistan ranks 18th among 106 countries. According to the 2020 analysis of the IQAir organization, the level of air pollution in Tashkent with small dispersed particles is 29.9 micrograms. The standard of air pollution level in cities is set by the World Health Organization as 10 micrograms [5]. The results of this analysis are much higher in our country than in industrialized countries. Air pollutant emissions coefficients have the following equation. E = PxFx(1-ER/100). Here: E - emission, lb/hour; R - product volume, tons/hour; F - emission factor, pounds/ton; ER is the total emission factor of air pollution control.

Dust enters the atmosphere mainly in two ways - as a result of natural processes and as a result of human production activities. Natural processes include volcanic eruptions, forest fires, cosmic dust, etc. Production enterprises also play a big role in the spread of dust into the air. The main ones include: Enterprises producing construction materials - 34.7

percent IES - 29.5

percent Motor transport - 15.8

percent Black metallurgy - 12.4 percent

Chemical industry - 4.6

percent Non-ferrous metallurgy - 2.2

percent Oil refining enterprises - 0.5 percent

Since the dust emitted into the atmosphere from industrial enterprises has different shapes, sizes, and densities, they are cleaned using different methods. There are the following methods of cleaning the air from dust, 1) gravity method 2) cleaning method based on dry inertia and centrifugal force. 3) wetting method. 4) filtering method. 5) electrostatic method. 6) method of coagulation using sound and ultrasound.

1. Sedimentation (gravity) chambers are used for dust cleaning by gravity method. With this device, the size is 50 to 500 μm. dust particles up to are cleaned. The structure of the device is very simple, but it cannot clean small dust particles [6].

2. Inertial dust catcher devices work based on the fact that the air with small dust particles is cleaned due to hitting obstacles or sudden changes in direction. The efficiency of this device is up to 65-80%, and it is designed to clean dust particles with a size of 45 microns. Centrifugal dust cleaning is carried out in cyclones. With the help of cyclones, the size of the dust is 4-5 microns. particles are also captured, and the efficiency of the connection is up to 98%. 3. Wetting dust cleaning devices allow to clean the air from dust and toxic gases at the same time. These devices work based on the absorption of gas and dust in liquid droplets or liquid film. In order to increase their contact surface, the liquid and gas move in opposite directions and the liquid is sprayed from above. The cleaning efficiency of a flat, nozzle washing tower is 75-85 percent. Wetting vacuum cleaners have the following disadvantages. It is difficult to separate washed dust from water, acid or alkali is formed as a result of absorption of gas together with dust, which leads to corrosion of equipment walls.

4. The filtration method is based on trapping dust when passing dusty air through porous barriers. Filter barriers are divided into 2 types;

1) granular layer filters (coke, sand, gravel, sawdust, etc.) trap large particles.

2) fabric filters (paper, felt, fiberglass, thread and synthetic fiber fabrics, etc.) capture small dust particles. Filtering equipment has a very simple salting. But it is necessary to clean the filter cloth by shaking it from time to time. Therefore, they quickly fail. 5. Cleaning the air from dust in electrofilters, dust particles are cleaned in devices under the influence of electricity and they have the following salinity: 1. Arc generating electrode.2 Deposition electrode. When an electric current is applied to the electrodes, gas molecules are ionized. Ions, in turn, are adsorbed on the surface of the dust particle and, under the influence of the electric field, are directed toward the depositing electrode and deposited on

the electrode. From time to time, the surface of the electrode should be cleaned of dust. In terms of structure, electric filters have plate and tubular forms

6. Dust removal using sound and ultrasound. These devices are used to improve the efficiency of cyclones and filters, and they have the following salinity. Using a siren, a sound or ultrasound is given to the device. As a result, dust particles are set in motion. Due to the formation of a certain humidity with the help of water, the wet dust particles become larger and coagulate and begin to sink. These devices are mainly retained by the institution, district, etc.

Experiments and observations show that cyclone filters are the most effective means of improving the ecological environment in industrial enterprises and cleaning harmful dust.

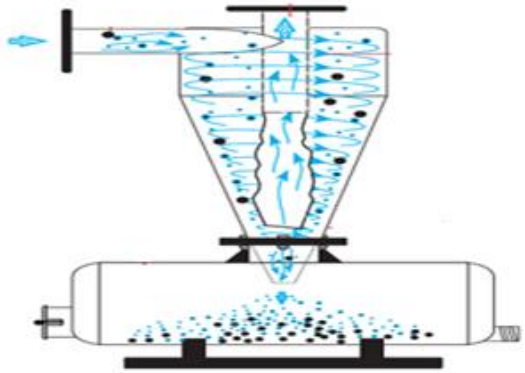

Figure 2. Cyclone structure.

Cyclone (in engineering) is a device designed to clean air (gas) from suspended solid particles (gas, water droplets or dust) under the influence of centrifugal force. The structure consists of a cylindrical body that tapers downwards, a tappet and an outlet pipe, which are installed in the body in an attempt or spiral manner. Dirty air (gas) is sent to the upper part of the cyclone through the nozzle at high speed. Air (gas) moves in a circular motion and falls from top to bottom forming a spiral pile. Then, under the influence of centrifugal inertia force, suspended solid particles (gas, dust particles) are thrown to the wall of the cyclone, together with air (gas), they fall to the bottom of the casing and exit through the outlet port. Purified air (gas) moves through the pipe, forms an internal lump and goes out. m/s) and other factors. The cyclone is mainly used in industrial enterprises. But in many enterprises dust filters are broken or not available at all. This in turn has a serious impact on the health of employees.

CONCLUSION

According to the results of the analysis, it can be concluded that intensive use of natural resources, disposal of impossible products of production that are not part of the natural cycle of substances into the environment, use of ecologically dangerous biotechnologies, energy sources, etc. are caused by human activity. causing a disturbance in the balance between the state of the surrounding environment. According to the latest statistical analysis, the inspected enterprises cause a certain amount of damage to the atmosphere, and thousands of tons of emissions are emitted from them into the environment per year.

In places where man has a strong impact on nature, ecological stress and sometimes catastrophes are occurring, that is, the feedback effect of nature on human influence is clearly felt. Since the dust emitted into the atmosphere from industrial enterprises has different shapes, sizes, and densities, it is recommended to clean them using different methods depending on their suitability, and this should be strictly controlled.

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