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MATHEMATIC METHOD TO DETERMINE THE EMISSIONS OF POLLUTANTS INTO ATMOSPHERE FROM WWTP SOURCES AT COKE OVEN AND BY-PRODUCT RECOVERY PLANT

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The article considers the issues related to the use of large volumes of water in the technological processes of coke production, which results in the generation of a large amount of polluted wastewater of different origin and properties. It is noted that a separate wastewater sewerage system is used at coke plant allows differentiated solutions to the methods of treatment of wastewater of different composition and the fullest use of treated wastewater for the production needs of the enterprise. Water supply to the main water consumers at the coke plant is applied according to the reverse scheme.

The article characterises the quantitative and qualitative composition of wastewater coming from different shops of coke production. The necessity of efficient purification of phenolic waters at a waste water treatment plant is considered, which is dictated by their further use according to the technological scheme in production. The analysis of the waste water treatment plant as a source of air pollution and the need to determine the quantitative and qualitative characteristics of pollutant emissions from the waste water treatment plant to assess the environmental impact are provided.

The methods for determining pollutant emissions from waste water treatment plants, which are currently used at existing enterprises and in the design of waste water treatment plant facilities, are considered.

The necessity of developing a methodology for calculating pollutant emissions from waste water treatment plants at coke production is substantiated.

The list of basic initial indicators for performing mathematical calculations of pollutant emissions from waste water treatment plant facilities in coke production is established.

The algorithms of mathematical calculations of the quantitative composition of pollutant emissions from the tank equipment depending on the characteristics of the technological process and design features of the waste water treatment plants tanks are presented.

Keywords: coke production, wastewater, pollutant emissions, composition, treatment, waste water treatment plant, methodology.

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