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MINIMIZATION OF POTENTIAL ENVIRONMENTAL HAZARD IN WASTE DISPOSAL MANAGEMENT

A methodological approach to the problem of minimization of the human activities impact on the environment is proposed. Impact analysis of rubbish dumps on the environment and human body has been conducted.

The recultivation and phytomelioration features of the devastated landscapes in Ukraine and abroad.

The paper studies the deification of rubbish dumps on the basis of genetic, engineering and geological, edaphically, climate, ecological and technogenic features.

Experimental edaphically and climate researches of rubbish dumps, taking into account their geographical and forest zoning, have been conducted. It shows, based on examples of actual waste disposal sites, the possibilities for development of integral index of ecological hazard from the initial indicators using different methods for normalization and aggregation with subsequent comparison of their informational quality.

The features of bigamous destruction of consumer waste and its dependence on microorganism viability. Specific structure and composition of plant groups, created in the process of natural overgrowth are analyzed, and features of their rise and evolution are explored. Successive stages of rubbish dumps vegetation are considered.

Parameters of physiological firmness of rubbish dumps weed groups are experimentally studied and the paper outlines the dependence of plants protective functions on ecological factors. Complex of scientific, organizational and technical measures of rubbish dumps removal from service by applying phytomelioration has been substantiated.

Results of the computations proved legitimacy of selection of the initial indicators, thresholds and procedures for development of the summary index of potential environmental hazard.

It is proposed to use the value of this index to minimize the potential environmental hazard due to municipal locality waste disposal by choosing landfills between a few operated disposal landfills that are considerably different from each other in terms of values of the initial indicators and the summary indices.

The results of researches of an exit of biogas and atmospheric air are presented in article on ranges on joint deposition of the household and industrial wastes being fire-dangerous objects and sources of emissions of greenhouse and toxic gases at all stages of operation.

Despite variety of the factors having impact on formation of methane containing gas, its qualitative structure it is approximately constant, but depending on a cycle of life of the range concentration of components can vary in the wide range.

Results of research revealed critical fire-dangerous concentration of methane containing gas in deep layers of a body of the range on joint burial of household and industrial hydrocarbonic wastes, and also the possible reasons of its ignition, such as the splinters of glass available on a surface of ranges and causing a local overheat, and also temperature increase in a place of an exit of biogas from a range body. As a part of biogas, besides methane, are found a set of other combustible components, such as: hydrocarbons, hydrogen sulfide and carbon oxide.

By results of comparison of concentration of combustible components of biogas at the exit from a range body on joint deposition of waste, regardless of its device and the contents, it is established that one of the main ways of decrease explosive- and fire danger is laying of exhaust system for removal of biogas in the atmosphere through system of pipelines and wells. This way is the most acceptable for prevention of explosions and fires on already existing ranges. Gas outlet systems have to be one of basic elements of arrangement of ranges of solid household waste.