

# STEPS THE DEVELOPMENT OF A COMPLEX TECHNOLOGY FOR ATMOSPHERIC AIR PROTECTION DURING THE OPERATION OF POWER PLANT WITH RECIPROCATING ICE WITH HIGH LEVEL OF MORAL AND PHYSICAL WEAR

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**Introduction and formulation of research problem.** From the analysis of scientific and technical literature and works of the main scientists in technogenic and ecological safety area [1] is known that power plants (PP) that are equipped with reciprocating internal combustion engine (RICE), namely diesel engine as the source of mechanical energy to drive (i.e. vehicles) and/or performing their main function (i.e. special equipment, including units of fire and emergency rescue equipment that are on operational duty in units of the State Emergency Service of Ukraine) are a powerful source of factors of environmental hazard (EH) of different origins. Which means that PP with RICE performs permanent, intensive and diverse by its by its physical origin, the negative impact of technogenic nature on the components of the environment, especially on atmospheric air. **Purpose of the study.** Determination and description of the prerequisites for the development of complex environmental protection technology (EPT), in particular atmospheric air, from the negative technogenic impact of physical and chemical EH factors, the source of which is diesel RICE as a part of PP, both new and with a significant degree of moral and physical wear, during its accident-free exploitation. **Object of the study.** Ecological safety of atmospheric air in the places of PP with RICE exploitation both new and with significant moral and physical wear. **Subject of the study.** The EPT, which complexly ensures the legally established values of indicators of the level of the object of the study. **Conclusions.** Thus, on the basis of the analysis of scientific and technical, reference, patent and normative literature, it was found that study aimed at improving the scheme of the environment protection technology from the negative anthropogenic impact of the PP with RICE with a significant degree of moral and physical wear during their accident-free exploitation through the development of devices for cleaning the EG flow, which reduce several EH factors at once, the mathematical apparatus for criteria-based assessment of the efficiency of its operation are relevant, have signs of scientific novelty and significant practical value.

## References:

1. Prerequisites for the development of a complex technology for atmospheric air protection during the operation of power plant with reciprocating internal combustion engine with high level of moral and physical wear / O.M. Kondratenko, V.M. Babakin, V.A. Krasnov, V.M. Semykin // Проблеми техногенно-екологічної безпеки в сфері цивільного захисту: Матеріали Всеукраїнської науково-практичної конференції (08–09 грудня 2022 р., НУЦЗУ, Харків). – С. 81–84.