ASSESSMENT OF EMISSION OF VAPORS OF TECHNICAL FLAMMABLE LIQUIDS CAUSED BY EFFECTS OF LARGE AND SMALL BREATHING OF RESERVOIRES OF OIL STORAGE ENTERPRISE

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In the study the values of mass hourly emission of vapor of technical flammable liquids (TFL) from the reservoires of oil storage enterprise G(RB) in kg/h and the coefficient of weight of this ecosafety (ES) factor A(RB) was determinated. The value of G(RB) is the sum of the values of the mass hourly emission of motor such vapor at large breathing G(SB) and at small breathing G(IB) of the reservoires.

The value of the weight factor A(RB) is proposed to be equal to the value of the weight factor of the fuel component criterion K_{fe} averaged throughout the field of operating regimes of 2Ch10.5/12 diesel engine A_{fuel} obtained in the monograph [1] A(RB) = A_{fuel} = 38,4.

The distribution of magnitudes of values of G(SB) in the field of operating regimes of autotractor diesel engine 2Ch10.5/12 is shown in Fig. 1 (G(IB) = 0,0012 kg/h = const). The distribution of magnitudes of values of G(RB), G(SB) and G(IB) in the regimes of standardized steady testing cycle ESC (UNECE Regulation No. 49) of autotractor diesel engine 2Ch10.5/12 is also shown in Fig. 1.
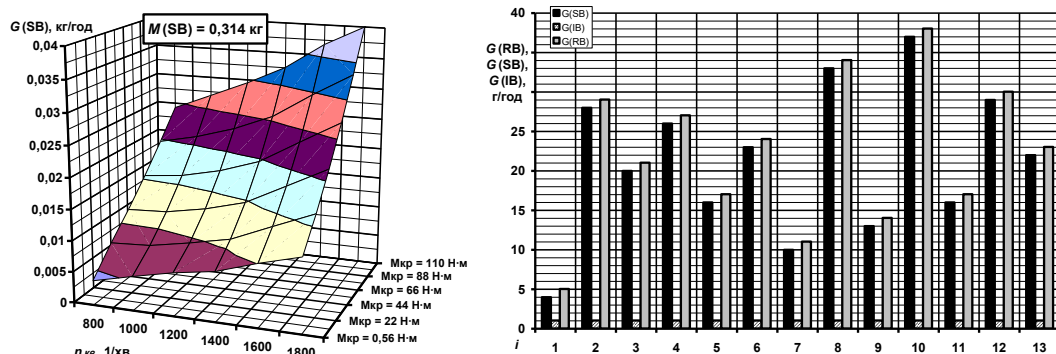

Figure 1 – Distribution of magnitudes of values of G(RB), G(SB) and G(IB) in the field of operating regimes and testing cycle ESC of autotractor diesel engine 2Ch10.5/12

References:

1. Kondratenko O.M. (2019). Metrological aspects of complex criteria-based assessment of ecological safety level of exploitation of reciprocating engines of power plants : Monograph. Kharkiv. Publ. Style-Izdat. 532 p.