

## Section 02. Geotechnical Systems Stability

Elia Abdullaieva  
I.I. Kurmeliov, research supervisor  
L.O. Tokar, language adviser  
SHEI «National Mining University», Dnipropetrovsk

### **Expected Volume of Disconfirmation and Write-off of Reserves Inexpedient to Be Developed**

Estimation of expected volume of disconfirmation and derecognition of reserves inexpedient to be developed due to technical-and-economic reasons is performed by means of their total relative fraction ( $D_{CH}$ ) forecasting within confirmed in-place reserves

The fraction is determined from the formulae:

- For fully-mechanized mines:

$$D_{CH} = 3 + 2.8 \cdot \lambda_{yD}^c + 0.10 \cdot \delta^c, \%$$

- For nonmechanized mines:

$$D_{CH} = 2.1 + 2.0 \cdot \lambda_{yD}^c + 0.07 \cdot \delta^c, \%$$

- For coal strip mines:

$$D_{CH} = 1.5 + 1.0 \cdot \lambda_{yD}^c + 0.04 \cdot \delta^c, \%$$

Where  $\lambda_{yD}^c$  is mean specific value of lambda criterion of layer hypsometry exploration maturity; and  $\delta^c$  is mean value of relative delta criterion of depth exploration maturity.

Such mean values as  $\lambda_{yD}^c$  and  $\delta^c$  are identified by means of calculations of entering it tetragons of holes networks.

Mean specific value of lambda criterion is determined on mean specific  $\lambda^c$  value expressed in meters, and mean square of ratable blocks  $S^c$  representation in hundreds thousands  $m^2$  :

$$\lambda_{yD}^c = \frac{\lambda^c}{S^c}$$

Expected volume of disconfirmation and write-off of reserves is used in the process of preparation of optimistic and pessimistic estimations of cost-performance ratio operation of an enterprise.