

REPUBLIC OF BULGARIA  
COUNCIL OF MINISTERS

DECREE No. 24  
of 04 February 1993

On the Adoption of a Regulation Concerning  
the Procedure for Assessment and Application of Sanctions for Damages to or Pollution  
of the Environment,  
Exceeding the Limiting Levels

*Promulgated State Gazette No. 15/23.02.1993*  
*Amended SG No. 101/1995*

THE COUNCIL OF MINISTERS  
HAS DECREED:

Sole Article

Adopts a Regulation concerning the procedure for assessment and application of sanctions for damaging or polluting the environment above the limiting levels.

TRANSITIONAL AND CONCLUDING PROVISIONS

§ 1. Cancels the Regulation for Property Sanctions at Polluting the Air, Waters and Soil, enacted by Decree No.7 of the Council of Ministers from 1978 (promulgated SG 30/1978; amended SG 44/1979, SG 23/1987, SG 2 and 48/1989 and SG 96/1992).

§ 2. For pending correspondence the old procedure for imposing property sanctions is applicable.

Prime Minister: Lyuben Berov

Chief Secretary of the Council of Ministers: Stoyan Denchev

REGULATION

Concerning the Procedure for Assessment and Application of Sanctions for Damages to or Pollution of the Environment, Exceeding the Limiting Levels

Chapter First

GENERAL PRINCIPLES

Article 1

At damaging or polluting the environment above the limiting levels, sanctions shall be applied to legal entities according to the procedure of this Regulation.

Article 2

(1) The size of the sanctions and the time, for which they are imposed, shall be determined by an order of the Minister of the Environment or of persons authorized by him.

(2) The order for the sanctions imposed, accompanied by an ascertaining written report and by the result of the analyses, with which a pollution is recorded or a damage to the environment is found, shall be sent to the penalized entity.

(3) According to the order, the penalized entity shall transfer the sum determined by the imposed sanction to the account of the respective Regional Inspectorate for Protection of the Environment, on whose territory the source of pollution is located, until the tenth day of each following month.

### Article 3

(1) The controlling authorities of the Ministry of the Environment shall take samples and perform analyses for registering evidence of pollution above limits or damages to the environmental components in the presence of a representative of the legal entity which is the source of pollution or damage to the environment.

(2) In case the representative of the legal entity referred to in Paragraph (1) refuses to be present during registration of the pollution or damage or if he would not sign the document, verifying the sampling (registering a damage), the control authorities of the Ministry of the Environment shall provide two other witnesses.

(3) The sampling, measurements and the analyses shall be made in compliance with the Bulgarian State Standard, and when such a standard is not available, according to methodologies, affirmed by the Minister of the Environment.

### Article 4

Until the 20-th day of each following month Regional Inspectorates for Protection of the Environment shall allocate the sums obtained from sanctions and shall transfer them to the accounts of the National Fund for Environmental Protection and of the Regional Funds for Environmental Protection in a proportion, regulated by Article 3, Paragraph (4) of the Environmental Protection Act.

### Article 5

(1) The entities, which discontinue or diminish the pollution or damage to the environment may lay a written request to the controlling authorities of the Ministry of the Environment for ceasing or diminishing the sanctions.

(2) The sanction shall be discontinued or diminished from the day, indicated in the laid request on the basis of:

1. Results from new control checks and measurements, proving the discontinuance or diminution of the damage or pollution;

2. A document for a temporary or a permanent discontinuation of the activity, causing the disturbance, after a preliminary notification of the controlling authority;

3. An ascertaining written report, verifying the recovery of the land surface - for sanctions, imposed in compliance with Chapter Second, Section III of this Regulation.

(3) When resuming the activity referred to in item 2 of Paragraph 2, the entities referred to in Article 1 shall be obliged to immediately inform in written form the controlling authority, which in 14 days time has to perform an examination.

#### Article 6

(1) A single penalty shall be imposed for each allowed broadside pollution or damage to the environment, as well as in compliance with the procedure of Section V, Second Chapter of this Regulation.

(2) The size of the sanctions referred to in Paragraph 1 shall be determined in compliance with the procedure in the Second Chapter of this Regulation, and when this is impossible - after the assessment of the competent authority.

#### Article 7

The legal entities, on which sanctions are imposed, may appeal against them following the procedure of the Administrative Violations and Penalties Act.

#### Article 7a

Unredeemed amounts according to imposed sanctions based on the Regulation shall be collected in compliance with the provisions of the State Claims Collection Act.

### Chapter Second

#### ASSESSMENT OF THE SIZE OF THE SANCTIONS AT POLLUTING OR DAMAGING THE ENVIRONMENT

#### Section I

#### Sanctions at Polluting Water Streams and Basins

#### Article 8

(1) Sanctions shall be imposed to the legal entities, polluting water streams and basins above the limiting levels, valid for the country.

(2) The sanctions shall be determined on the basis of the unit size of the sanction for each polluting substance or index, quantity of polluting substances above the limiting level, the capacity of the waste waters and the time, during which they are discharged.

(3) The polluting substances and indices, the unit size of the sanction for each of them and the formulae, by which the size of the sanction for each particular case shall be calculated, are indicated in items 1 and 2 of Appendix No 1.

(4) The unit size of the sanction for polluting substances, not mentioned in item 1 of Appendix No 1, shall be determined in respect to iron or ammonia nitrogen, depending on the character of the polluting substance according to item 3 of the same Appendix.

(5) The size of the sanction determined in compliance with this article shall be increased:

1. Three times, when the pollution is within the borders of a national park or reservation;
2. Twice, when the pollution is within the borders of the remaining types of protected territories, as well as of the sanitary restricted zones around the water sources and installations for drinking-everyday needs water supply.

## Section II

### Sanctions for Polluting the Atmospheric Air

#### Article 9

(1) Sanctions shall be imposed to the legal entities, emitting in the atmosphere gases, polluted above the limiting levels of admissible emissions (concentrations in waste gases) of noxious substances, valid for the country.

(2) The sanctions for polluting the atmospheric air shall be assessed on the basis of the determined unit size of the sanction for each polluting substance, the quantity of the polluting substances and the time, during which they are emitted.

(3) The polluting substances, the unit size of the sanction for each of them and the formula, by which the size of the sanction for each particular case shall be calculated, are indicated in items 1 and 2 of Appendix No 2.

(4) The unit size of the sanction for polluting substances, not mentioned in item 1 of Appendix No 2, shall be determined in respect to sulphur dioxide or copper, depending on the character of the substance referred to in item 3 of the same Appendix.

(5) The procedure for imposing sanctions referred to in item 4 of Appendix No 2 shall be applied in the following cases:

1. When sanctions have not been imposed on the legal entities referred to in the procedure of Article 9;

2. For substances, causing unpleasant odours, for which limiting levels for admissible emissions are not available.

### Section III

#### Sanctions for Damaging or Polluting the Land Surface

##### Article 10

(1) Sanctions shall be imposed to legal entities, causing damage to or polluting the land surface, cast away wastes or deactivate them without permission, or do not adhere to the project technology for deactivation.

(2) The sanctions for damaging or polluting the land surface shall be assessed on the basis of the determined magnitude of the sanction for damaging or polluting a unit area with the respective pollutant and the size of the polluted or damaged surface.

(3) The types of pollutants and damages to the land surface, the unit size of the sanction and the formula, according to which the sanction shall be calculated, are pointed out in items 1 and 2 of Appendix No 3.

(4) The size of the sanction determined under this article shall be increased:

1. Three times, when the damage or the pollution of the land surface is within the borders of a national park or reservation;
2. Twice, when the damage or the pollution of the land surface is within the borders of the remaining types of protected territories, as well as of the sanitary restricted zones around the water sources and installations for drinking-everyday needs water supply.

### Section IV

#### Sanctions for Noise Loading and Electromagnetic Fields Above the Standards

##### Article 11

(1) Sanctions shall be imposed to legal entities, creating noise and electromagnetic fields in the environment with levels above the standard.

(2) The sanctions for exceeding the admissible levels of noise, of intensity or energy density of the electromagnetic fields shall be determined on the basis of the established size of the sanction per unit excess of the respective standards, the extent of the excess of the standards and the time, during which the violation has taken place.

(3) In the cases, in which a sanction for a noise loading and for electromagnetic fields above the standards is imposed, the unit size of the sanction and the formula, according to which the total size of the sanction shall be calculated, are pointed out in Appendix No 4.

## Section V

### Sanctions at Damaging the Bowels of the Earth

#### Article 12

(1) Sanctions shall be imposed to legal entities, causing damage to the bowels of the earth and to the environment during the use of the latter.

(2) Damages to the bowels of the earth and to the environment during the use of the latter shall be: carrying out geological prospecting and mining extraction activities without having approved projects; out-of-project losses of mineral resources and of useful components (raw materials) when disobeying the technologies for the mining and processing (mineral dressing) of the mineral resources.

(3) The size of the sanctions for carrying out geological prospecting and mining extraction activities without having approved projects shall be determined by the volume of the out-of-project activities, and by the expenses for performing a unit volume of these activities, corrected by a coefficient, accounting for the type of the basic activities, according to the formula under item 1 of the Appendix No 5.

(4) The size of the sanctions for out-of-project losses of mineral resources and of useful components (raw materials) as a result of disobeying the technologies for the mining and processing (mineral dressing) of the mineral resources shall be determined by the formulae referred to in item 2 of Appendix No 5.

#### ADDITIONAL PROVISIONS

§ 1. Sanctions shall not be imposed for a damage or pollution, caused by unforeseen natural calamities.

§ 2. The Minister of the Environment may change the specific size of the sanction, determined by the procedure of this Regulation when evidences exist for a heavy ecological situation in the region or when the risks for the human health are increased.

§ 3. Sanctions under the procedure of this Regulation shall be imposed to sole traders as well, who have registered firms in the country, and whose activity leads to a damage or to a pollution of the environment above the admissible limits.

§ 4. In those cases, when for separate kinds of damages or polluting substances no limiting standards or requirements exist, the regulation shall be applied after issuing a normative act for them by the competent authorities.

§ 5. In compliance with the meaning of this Regulation a "broadside pollution" shall be a pollution (discharge of a polluting emission), which may take place as a result of an accident as well, but its action is of a temporary nature and may cause significant consequences.

## TRANSITIONAL AND CONCLUDING PROVISIONS

§ 6. This Regulation is issued on the basis of Paragraph 3 of Article 3 from the Environmental Protection Act (Promulgated SG 86/1991; amended SG 100/1992) and cancels the Regulation for Property Sanctions at Polluting the Air, Waters and Soil (promulgated SG 30/1978; amended SG 44/1979, SG 23/1987, SG 2 and 48/1989 and SG 96/1992).

§ 7. The execution of this Regulation shall be entrusted to the Minister of the Environment.

Appendix No 1  
to Article 8

### 1. A Table of Polluting Substances and Indices and a Unit Size of the Sanction in Case of Pollution of Water Streams and Basins

No	Polluting Substances and Indices	Unit Size of the Sanction in Lv/kg
1.	Active reaction (pH) - per Unit pH	8.00
2.	Undissolved substances	3.00
3.	BOD, COD (dichromate), oxydativity (permanganate)*	8.00
4.	Nitrogen ammonium	16.00
5.	Nitrogen nitrate	3.00
6.	Nitrogen nitrous	800.00
7.	Phosphates (Ortho)	32.00
8.	Petroleum products	112.00

9.	Animal fats and plants' oils	11.00
10.	Cyanides	640.00
11.	Phenols	640.00
12.	Hydrogen Sulfide	480.00
13.	Anionic Detergents	32.00
No	Polluting Substances and Indices	Unit Size of the Sanction in Lv/kg
14.	Mercury	48000.00
15.	Cadmium	4800.00
16.	Lead	960.00
17.	Arsenic	240.00
18.	Copper	96.00
19.	Chromium (hexavalent)	960.00
20.	Chromium (trivalent)	96.00
21.	Nickel	240.00
22.	Zinc	9.60
23.	Manganese	160.00
24.	Iron	32.00
25.	Formaldehyde	64.00
26.	Caprolactame	32.00

27.	Phthalic Acid	32.00
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\* The sanction referred to in item 3 shall be imposed for only one of the three indices, accepted by the controlling authority, depending on the character of the waste waters.

2. The size of the sanction shall be determined:

a) for polluting substances by the formula

n

$$A = \sum_{i=1}^n Q (K_{\hat{o}i} - K_{i\hat{i}}) \cdot T \cdot C_i \cdot 3,6 \cdot 10^{-3}$$

i=1

where A is the size of the sanction - Lv/month;

Q - the capacity of the waste waters - l/second;

$K_{\hat{o}i}$  - the actual concentration of the i-th polluting substance in the waste waters - mg/l;

$K_{i\hat{i}}$  - the standard for admissible degree of pollution by the i-th polluting substance, determined according to the acting normative requirements- mg/l;

T - the time, during which the waste waters are discharged - hours/month;

C - the unit size of the sanction for the i-th polluting substance - Lv/kg;

i - 1, 2, ..., n - type of the polluting substance or an index;

b) for the index of active reaction (pH) the formula for waters with alkaline reaction is applied:

$$A = Q (K_{\hat{o}} - K_{\hat{i}}) T \cdot C \cdot 3,6 \cdot 10^{-3}$$

or the formula for waters with acidic reaction:

$$A = Q (K_{\hat{i}} - K_{\hat{o}}) T \cdot C \cdot 3,6 \cdot 10^{-3},$$

where A is the size of the sanction - Lv/month;

$K_{\hat{i}}$  - the standard for the admissible value of the active reaction (pH), determined according to the acting normative requirements;

$K_{\hat{o}}$  - the actual value of the active reaction (pH);

Q - the capacity of the waste waters -l/h;

T - the time, during which the waste waters are discharged - hours/month;

C - the size of the sanction in Lv per unit pH in excess in a liter of waste waters.

3. For polluting substances, not included in item 1, the unit size of the sanction shall be determined by the following formula:

LACj

$$C_i = C_j \frac{LAC_j}{LAC_i}$$

LACi

where:

C<sub>i</sub> is the unit size of the sanction for the i-th polluting substance in Lv/kg;

C<sub>j</sub> - the unit size of the sanction for iron ( if the unit size of the sanction for metal ions is determined) or for ammonium nitrogen (in the case of determining the unit size of the sanction for the rest of the polluting substances)- Lv/kg;

LAC<sub>j</sub> - the limiting admissible concentration of iron, correspondingly of ammonium nitrogen, determined according to the acting normative requirements - mg/l;

LAC<sub>i</sub> - the limiting admissible concentration of the i-th polluting substance, determined according to the acting normative requirements - mg/l;

Appendix No 2

to Article 9

1. A Table of Polluting Substances and a Unit Size of the Sanction in Case of Polluting the Atmospheric Air

No	Name	Unit Size of the Sanction in Lv/kg
1.	Nitrogen Dioxide	3.60
2.	Ammonia	1.60

3.	Sulfur Dioxide	1.20
4.	Hydrogen Sulfide	36.00
5.	Dust (non toxic)	0.80
6.	Soot	2.80
7.	Cadmium	400.00
8.	Copper	40.00
No	Name	Unit Size of the Sanction in Lv/kg
9.	Lead	1320.00
10.	Arsenic	132.00
11.	Carbon Disulphide	36.00
12.	Hydrochloric acid (Hydrogen Chloride)	1.60
13.	Sulfuric Acid	148.00
14.	Phenols	30.00
15.	Chlorine	3.20
16.	Zinc	8.00"

2. The size of the sanction shall be determined by the formula

n

$$A = \sum_{i=1}^n \tilde{A}(K_{\delta i} - K_{i i}).T.Ci.3,6.10^{-3}$$

i=1

where A is the size of the sanction - Lv/month;

$\tilde{A}$  - the quantity of gases emitted in the atmosphere - Nm<sup>3</sup>/second;

$K_{\hat{o}i}$  - the actual concentration of the i-th polluting substance in the waste gases - mg/N m<sup>3</sup>;

$K_{\hat{i}i}$  - the standard for admissible emissions in the waste gases- mg/Nm<sup>3</sup>

T - the time, during which waste gasses are emitted in the atmosphere- hours/month;

$C_i$  - the unit size of the sanction for the i-th polluting substance - Lv/kg;

i - 1, 2....., n - type of the polluting substance.

3. For polluting substances, not included in item 1, the size of the sanction per unit polluting substance shall be determined by the formula:

LAC<sub>j</sub>

$$C_i = C_j \cdot \text{-----} ,$$

LAC<sub>i</sub>

where:

$C_i$  is the unit size of the sanction for the i-th polluting substance- Lv/kg;

$C_j$  - the unit size of the sanction for sulphur dioxide, when the polluting substance is a gas or vapour, or for copper, when the polluting substance is an aerosol- Lv/kg;

LAC<sub>j</sub> - the limiting admissible (maximum single time) concentration of sulphur dioxide or correspondingly of copper - mg/Nm<sup>3</sup>;

LAC<sub>i</sub> - the limiting admissible (maximum single time) concentration of the i-th polluting substance - mg/Nm<sup>3</sup>

4. A Table for Substances, Causing Unpleasant Odours, and the Size of the Sanction

Distance from the Borders A Sanction  
of the site of the Project in Lv/month

up to 100 meters 10000,00  
up to 500 meters 20000,00  
up to 1000 meters 30000,00  
above 1000 meters 50000,00

Appendix No 3  
to Article 10

1. A Table for the Types of Pollutants and Damages to the Land Surface  
and a Unit Size of the Sanction

No	Name	Unit Size of the Sanction in Lv/kg
1.	Solid domestic waste	100.00
2.	Construction waste	140.00
3.	Inert (homogeneous) waste	140.00
4.	Industrial waste:	
	Dangerous waste according to Appendix No. 1 to the Decree of the Council of Ministers No. 153 from 1993 (State Gazette No. 70/1993)	400.00
	Industrial waste, which does not have the character of dangerous waste	280.00
5.	Pesticides, for which the Limiting Admissible Concentration (LAC) is:	
	up to 0,05 mg/kg	80.00

	from 0,06 mg/kg to 0,5 mg/kg	40.00
	above 0,5 mg/kg	20.00
No	Name	Unit Size of the Sanction in Lv/kg
6.	Heavy metals and metalloids:	
	Lead above LAC	720.00
	Copper above LAC	280.00
	Zinc above LAC	400.00
	Mercury above LAC	1200.00
	Cadmium above LAC	800.00
	Cobalt above LAC	320.00
	Nickel above LAC	320.00
	Chromium above LAC	320.00
	Arsenic above LAC	1200.00
	Manganese above LAC	160.00
7.	Vegetable waste	40.00
8.	Mineral fertilizers	160.00
9.	Radioactive substances	1400.00

10.	Physical damage to the land surface	200.00
11.	Turning the soil into a wetland	80.00

2. The size of the sanctions shall be determined by the formula

$$A = S.C,$$

where A is the size of the sanction- Lv;

S - the polluted or damaged area- m<sup>2</sup>

C - the size of the sanction for polluting or damaging an area 1 m<sup>2</sup>

The total size of the sanction shall be determined as a sum of the sanctions, calculated separately for each type of pollutant or damage caused to the land surface, according to item 1 of Appendix No 3.

In the cases, when the pollution has been done with mixed wastes of different types, the size of the sanction shall be determined for the waste with highest unit size by the formula, given in item 2 of Appendix No 3.

Appendix No 4  
to Article 11

1. Sites of Noise Loading and Size of the Sanction per Unit Excess Above the Admissible Levels

No	Site of Registration and Measurement of the Violation	Sanction per Unit Excess in Lv/dB
1.	A residential area	120.00
2.	Areas of children's, health and educational institutions	160.00
3.	Recreation sites	120.00
4.	An Industrial area outside the boundaries of the hygienic protection zone of the source	40.00

2. Frequency Range and Intensity or Density of the Energy Flux of Electromagnetic Fields (EMF) and Size of the Sanction per Unit Excess of the Levels

No	Frequency Range	Sanction per Unit Excess in Lv
1.	From 30 kHz to 300 kHz (v/m)	80.00
2.	From 300 kHz to 3 MHz (v/m)	80.00
3.	From 3 MHz to 30 MHz (v/m)	80.00
4.	From 30 MHz to 300 MHz (v/m)	120.00
5.	From 0,3 GHz to 30 GHz (mW/cm2)	120.00"

3. The size of the sanction shall be determined by the formula

$$A = (E\hat{O} - E\acute{I}).T.C,$$

where A is the size of the sanction - Lv/month;

$E\hat{O}$  - the measured level of noise in dB intensity of the EMF in volts per meter or density of the energy flux of the EMF in microwatts per square centimeter;

$E\acute{I}$  - the standard for admissible noise level, intensity or density of the energy flux of the EMF;

C - the unit size of the sanction per unit excess of the norms - Lv.;

T - time, during which the norm for the noise level, the intensity or the density of the energy flux has been exceeded -h/month.

Appendix No 5  
to Article 12

1. The size of the sanction referred to in Article 12, Paragraph 3 shall be determined by the formula

$$A = Q.K.P,$$

where A is the sanction for carrying out geological prospecting and mining extraction activities without having approved projects-Lv.;

Q - the quantity of the out-of-project activities- ton, m<sup>3</sup> or m;

K - the coefficient, accounting for the type of the basic activities. For the mining extraction activities K = 0,2; for the geological prospecting activities K = 0,4;

P - the expenses for performing a unit volume of activities - Lv/ton, Lv/m<sup>3</sup> or Lv/m.

2. The size of the sanction referred to in Article 12, Paragraph 4 shall be determined by the following formulae:

a) For allowed out-of-project losses at the mining of ores and non-metalliferous minerals for each system of exploitation the following formula is applied:

$$A = (\hat{C} - \check{C}) \cdot K\hat{C} \cdot K\hat{E} \cdot \ddot{O} - \text{D}\ddot{A} \cdot Q\check{C},$$

where A is the sanction for out-of-project losses at the mining of ores and non-metalliferous minerals- Lv.;

$\hat{C}$  - the quantity of the real losses of useful components (raw materials) - tons or m<sup>3</sup>;

$\check{C}$  - the quantity of the planned losses of useful components (raw materials) - tons or m<sup>3</sup>;

$K\hat{C}$  - the real coefficient of losses;

$K\hat{C} = 1 - \check{C}/100$ , where  $\check{C}$  are the losses in %;

$K\hat{E}$  - the real coefficient of extraction at the processing (mineral dressing);

$K\hat{E} = \hat{E}/100$ , where  $\hat{E}$  is the extraction in %;

$\ddot{O}$  - the price of the useful component in the concentrate (raw material)- Lv/ton or Lv/m<sup>3</sup>;

$Q\check{C}$  - the quantity of the out-of-project losses of ore (raw material)- tons or m<sup>3</sup>;

$\text{D}\ddot{A}$  - the expenses for the mining of a unit volume of ore (raw material) - Lv/ton or Lv/m<sup>3</sup>;

b) for allowed out-of-project losses at the mining of coal the following formula is applied:

$$A = (Q\hat{C} - Q\check{C}) \cdot (\text{P}\ddot{D} + \text{P}\ddot{D}\hat{C} + \text{P}\ddot{I} + \text{P}\ddot{I}\hat{D}) \cdot K$$

where A is the sanction for out-of-project losses at the mining of coal- Lv.;

$Q\hat{C}$  - the quantity of the allowed real losses of coal- tons;

$Q\check{C}$  - the quantity of the planned losses of coal- tons;

PĪÐ - the expenses for prospecting 1 ton of balance reserves-  
Lv/ton;

PÐÀÇ - the expenses for revealing - Lv/ton;

PĪ - preparation expenses - Lv/ton;

PĤÐ - the general mining expenses for obtaining of 1 ton of coal -  
Lv/ton;

K - the coefficient, accounting for the quality of the coal

$K = 7000/q$ , where q is the calorificity of the coal - kcal;

c) for allowed out-of-project losses at the mining of revetment  
rocky material for each quarry the formula is applied:

RĪÐ - RÔ

$$A = \text{-----} \cdot K \cdot V_{\text{áë}} \cdot (\ddot{O} - P\ddot{A}),$$

100

where A is the sanction for out-of-project losses at the mining of  
revetment rocky material - Lv.;

rĭð - the project yield for producing shaped blocks - %;

rô - the real yield at producing shaped blocks - %;

k - the coefficient of utilization of the rocky material

V

$$K = \text{-----} ,$$

VĪÃ ÇÀĪ

where V is the volume of obtained rocky  
blocks and different stone products - m<sup>3</sup>;

VĪÃ ÇÀĪ - the volume of the redeemed balance  
reserves- m<sup>3</sup>;

Váë - the volume of produced shaped blocks- m<sup>3</sup>;

Ö - the price per unit volume produced block -  
Lv/m<sup>3</sup>;

PĀ - the expenses for the production of a unit  
volume of obtained block - Lv/m<sup>3</sup>;

d) for allowed out-of-project losses at the production of inert and effective materials for each quarry the formula shall be applied

$$A = (\hat{Q} - \check{Q}) \cdot (\ddot{O} - \ddot{P}),$$

where A is the sanction for out-of-project losses at the production of inert and effective materials - Lv;

$\check{Q}$  - the planned losses at the production - tons or m<sup>3</sup>;

$\hat{Q}$  - the quantity of real losses - tons or m<sup>3</sup>;

$\ddot{O}$  - the price per unit volume of inert and effective materials - Lv/ton or Lv/m<sup>3</sup>;

$\ddot{P}$  - the expenses for the production of a unit volume of inert and effective materials - Lv/ton or Lv/m<sup>3</sup>;

e) for allowed out-of-project losses of useful components at the processing (mineral dressing) of the mineral resources for each type of the useful component (raw material) the formula shall be applied

$\hat{N} - \check{N}$

$$A = \hat{Q} \cdot \frac{\hat{N} - \check{N}}{\hat{N}} \cdot \hat{E} \cdot \ddot{O},$$

100

where A is the sanction for out-of-project losses of useful components (raw materials) at the mineral dressing (processing) of mineral resources- Lv;

$\hat{Q}$  - the real quantity of waste at the mineral dressing (processing) - tons or m<sup>3</sup>;

$\hat{N}$  - the real content of useful components (raw materials) in the waste from the mineral dressing (processing) - %;

$\check{N}$  - the planned content of useful components (raw materials) in the waste from the mineral dressing (processing)- %;

$\hat{E}$  - the real coefficient of extraction at the mineral dressing (processing).

$\hat{E}$

$$\hat{E} = \frac{\hat{Q}}{\hat{Q} + \hat{N} \cdot \hat{E}},$$

100

where  $\hat{E}$  is the extraction in %;

$\hat{O}$  - the price of the useful component (raw material) - Lv/ton;

f) for allowed out-of-project losses at the processing of revetment rocky materials for each type of realized production the formula shall be applied

$R\hat{I}\hat{E} - R\hat{O}$

$$A = \frac{R\hat{I}\hat{E} - R\hat{O}}{100} \cdot V\hat{O}\hat{D}\hat{I} \cdot \hat{O},$$

100

where A is the sanction for out-of-project losses at the processing of revetment rocky materials- Lv;

$R\hat{I}\hat{E}$  - the planned yield at the processing of blocks - %

$R\hat{O}$  - the real yield at the processing of blocks - %

$V\hat{O}\hat{D}\hat{I}$  - the volume of practically realized production in types - m<sup>3</sup>;

$\hat{O}$  - the price of a unit volume practically realized production in types - Lv/m<sup>3</sup>.