SZTFH Decree
No …/2024

(… …) of the President of the Supervisory Authority for Regulatory Affairs (SZTFH)

amending SZTFH Decree No 27/2022 of 31 January 2022 on the General Rules of Blasting Safety

On the basis of the authorisation granted in points 8 and 26 of Section 50/A(1b) of Act XLVIII of 1993 on mining, and acting within the scope of my duties defined in Section 13*(n)* and *(o)* of Act XXXII of 2021 on the Supervisory Authority for Regulatory Affairs, I hereby order as follows:

1. Section

(1) In SZTFH Decree No 27/2022 of 31 January 2022 on the General Rules of Blasting Safety (hereinafter: Decree), Section 2, point 22 shall be replaced by the following:

(For the purposes of this regulation)

"22. *standard charge* is the highest amount of charges that co-explode in the same delay step, the largest of the charges that are co-exploded within 8 ms in the case of an electronic igniter, and the mass of the charge in the case of extended charges;"

(2) The following new point 32a is added to Section 2 of the Decree:

(For the purposes of this regulation)

"32a. *blast-proof design* is the design of an electrical or mechanical equipment which, in the course of its operation, must not give rise to an explosion or become a source of ignition, even in the event of abnormal operation;"

(3) Section 2 point 44 of the Decree is replaced by the following:

(For the purposes of this regulation)

"44. *blasting explosive* is the collective name for explosives and blasting agents;"

(4) The following new point 46a is added to Section 2 of the Decree:

(For the purposes of this regulation)

"46a. *blasting agent* is a material or structure which is used to directly initiate the charge;"

(5) The following new point 50a is added to Section 2 of the Decree:

(For the purposes of this regulation)

"50a. *venting failure* represents changes in the number of air compartments, the air-handling parameters of the main ventilation unit, the direction and volume of the traction air flow, and any change in the ventilation of the mine roadways which cause or are likely to cause a deviation of the

air flow from the required volume, speed or air composition or a deviation from the permissible value;”

2. Section

Section 3 of the Decree is replaced by the following:

“Section 3 (1) The management and supervision of the distribution of civil explosives may be assigned to a person who:

a) is at least 21 years of age, and
b) holds a blasting technical manager licence.

(2) The role of a person in charge of the manufacture of explosives may be assigned to a person who holds a degree in chemical engineering and has at least 3 years of experience in the manufacture of explosives. In the case of explosives that can be produced by mixing, the role of a person in charge of the manufacture may also be assigned to a person holding a blasting technical manager licence (hereinafter: blasting technical manager) with at least 3 years of experience as a blasting technical manager.

(3) The task of the management and control of the acquisition and storage of explosives may be assigned to a person who holds a blasting technical manager’s or blaster’s licence (hereinafter referred to as “blaster”).

(4) The design, planning, management and control of blasting operations may be entrusted to a blasting technical manager.

(5) The task of the blasting explosion of a building may be assigned to a blasting technical manager with at least 3 years of experience as a blasting technical manager.”

3. Section

Section 4 of the Decree is replaced by the following:

“Section 4 (1) The manufacture of explosives may be entrusted to a person with a secondary or primary qualification in the chemical industry.

(2) The manufacture of explosives that can be produced by mixing may also be assigned to a blaster.

(3) Except as provided for in paragraph (1), operations relating to explosives may be entrusted to a blasting technical manager or a blaster.

(4) A person who has been trained in the field and is found to be fit for the purpose may also be entrusted with certain auxiliary tasks relating to explosives (hereinafter: shotfirer aid). A shotfirer aid may be a person who has been educated to perform the task and has made it certain that he had mastered the relevant knowledge by successfully answering related test questions.”

4. Section

Section 5, paragraph (1)-(4) of the Decree shall be replaced by the following:

“(1) A blasting technical manager’s licence may be granted to anyone who:

a) has engineering qualifications in blasting and explosion technology or tertiary or secondary technical qualifications,
b) has completed at least 3 years of operational practice in blasting, and
c) has passed the mining inspection exam before the examination board of the mining inspectorate.

(2) A blaster's licence may be granted to any person who:
a) holds an engineering degree in blasting and explosion technology or has tertiary, secondary or primary technical qualifications,
b) is at least 21 years of age,
c) has gained at least one year of operational practice in blasting, and
d) has passed the mining inspection exam before the examination board of the mining inspectorate.

(3) The blasting technical manager's or blaster's licence is issued for an indefinite time, and is valid for
a) opencast mining and standard surface blasting operations,
b) seismic blasting operations,
c) metallurgical blasting operations,
d) blasting explosion operations targeted at buildings,
e) underwater and ice explosion operations,
f) deep drilling-related blasting operations,
g) underground blasting operations.

(4) The authorisation referred to in paragraph 3 may be granted for one or more of the scopes of competence."

5. Section

The following Section 5/A is inserted into Heading 3 of the Decree:

„Section 5/A (1) With the prior approval of the Mining Inspectorate, an organisation with the necessary personnel and equipment for theoretical and practical training may organise a training course of at least 40 hours for blasting technical managers, or a training course of at least 120 hours for blasters, in preparation for the exams in the field of mining inspection (hereinafter collectively: preparatory course). The initiative for approval shall contain the following:
a) the duration (number of hours) of the preparatory course, the detailed curriculum, the tools of training delivery, the place and course of the practical education,
b) the names, qualifications and the professional experience (in terms of time) of the lecturer,
c) a proposal for the date of the test, and
d) a proposal for the members of the examination board.

(2) Preparatory courses may be held, as a lecturer, by a person holding a higher education degree and a blasting technical manager licence.

(3) The training material for the preparatory course is detailed in Annex 1.

(4) The mining inspection test may be taken by those who have attended at least 80 % of the required number of hours of the preparatory training course referred to in paragraph (1).

(5) The test may be taken by blasting technology engineers without attending a preparatory course.

(6) The examination board comprises a chairman and two members. The President of the Supervisory Authority for Regulatory Affairs shall designate the place and date of the exam and appoint the members of the examination board. The chairman of the examination board may be a civil servant in employment with the Supervisory Authority for Regulatory Affairs.

(7) A candidate participating in the mining inspection exam may be awarded a ‘pass’ or ‘fail’ result. The examination board will consider the mining inspection test to be successful if 60 % of the theoretical and practical knowledge scores are obtained by the candidate. No complaint may be lodged against the examination board’s decision on the outcome of the mining inspection exam. If the candidate fails the test, they may take it again quarter of a year later.”

6. Section

The title of Heading 5 of the Decree is replaced by the following:

“5. General provisions concerning the manufacture of explosives”

7. Section

The following Section 6/A is inserted into Heading 5 of the Decree:

“Section 6/A The manufacturer shall be responsible for the performance of the tasks and obligations set out in this Chapter, unless otherwise provided for in this Chapter.”

8. Section

Section 7(3) of the Decree shall be replaced by the following:

“(3) In buildings belonging to class ‘RV’, the developer may place or install cooling, air handling and other electrical equipment or products where the temperature of any part of such equipment or product which may come into contact with explosives does not exceed 70 °C, including in continuous operation with a permissible load.”

9. Section

In Section 9, paragraphs (1) and (2) of the Decree shall be replaced by the following:

“(1) For the purpose of laying down requirements for construction, technical building and electrical installations, the manufacturer shall classify the rooms and open spaces of the buildings which are used in the manufacture process and contain explosives, and assign them to the hazard classes referred to in paragraphs 2 to 5. For rooms and open spaces where gas, steam or dust of a highly flammable or explosive class are expected to be present, zone boundaries shall also be defined.

(2) Hazard class ‘RV-1’ includes rooms or open spaces that contain explosives and in the air-space of which the following may be anticipated with regard to the vapour, dust, condensate of explosives as well as gases, vapours or dust in the highly flammable or explosive class:
(a) their permanent or temporary presence or forming of a deposit in a dangerous scale, or
(b) their presence which is non-hazardous in normal operations but becomes dangerous in the event of a malfunction or a foreseeable failure.
”

10. Section

The title of Heading 7 of the Decree is replaced by the following:

"7. Installation specifications for manufacturing facilities"

11. Section

The title of Heading 8 of the Decree is replaced by the following:

"8. Establishment of an internal protection system for structures used for manufacturing explosives"

12. Section

The following paragraph (16) is added to Section 11 of the Decree:

"(16) In premises with 'RV' classification it is important that a type of automatic fire-extinguishing equipment is installed which matches the characteristics of the explosive on site."

13. Section

The title of Heading 9 of the Decree is replaced by the following:

"9. Establishment of an external protection system for structures used for manufacturing explosives"

14. Section

(1) Section 15(3)(b) of the Decree shall be replaced by the following:

(The barrier wall for the separation of 'RV' premises shall be designed as follows:)

"(b) the material of the barrier wall is in situ-cast monolithic reinforced concrete or a closed structure built from concrete elements, the concrete casting or assembly of which may be interrupted only at the planned work joints,"

(2) Section 15(7)(a) of the Decree shall be replaced by the following:

(The installation requirements for doors in 'RV' premises shall be as follows:)

"(a) the door must belong to the fire-resistance class specified in the Ministerial Decree on the National Fire Protection Code, with the exception of a door in the blow-out wall, which may not belong to any fire resistance class; and the door should have a fire-rating of EI 30 in rooms classified as 'RV-1' and 'RV-2', and EI 15 in premises classified as 'RV-3' and 'RV-4',"

15. Section

The title of Heading 11 of the Decree is replaced by the following:

"11. Specifications for transport routes at the manufacturing facility"

16. Section

The title of Heading 12 of the Decree is replaced by the following:

“12. Flora and vegetation at the manufacturing facility”

17. Section

The title of Heading 15 of the Decree is replaced by the following:

“15. Water and sewerage system at the manufacturing facility”

18. Section

The title of Heading 16 of the Decree is replaced by the following:

“16. Heating and cooling at the manufacturing facility”

19. Section

The title of Heading 17 of the Decree is replaced by the following:

“17. Air handling system at the manufacturing facility”

20. Section

The title of Heading 18 of the Decree is replaced by the following:

“18. Specifications for the installation of electrical equipment at the manufacturing facility”

21. Section

The title of Heading 19 of the Decree is replaced by the following:

“19. Applicability and installation requirements for electrical products at the manufacturing facility”

22. Section

The title of Heading 20 of the Decree is replaced by the following:

“20. Specifications for the installation of technological equipment at the manufacturing facility”

23. Section

The title of Heading 21 of the Decree is replaced by the following:

“21. Specifications for fire protection equipment at the manufacturing facility”

24. Section

Section 46(7) of the Decree is replaced by the following:

“(7) A detailed work-log (shift log) shall be kept of the test operation, in which all relevant data, events and experience related to the test operation shall be recorded so that they can be retrieved at a later stage and can be used for the preparation of the technical documentation for normal production. The work-log shall be retained until the machinery or equipment is permanently decommissioned.”

25. Section

The title of Heading 25 of the Decree is replaced by the following:

“25. Protection against electrostatic charge of the manufacturing facility”

26. Section

The title of Heading 27 of the Decree is replaced by the following:

“27. Fire safety requirements for the manufacturing facility”

27. Section

(1) Section 70 (1) of the Decree shall be replaced by the following:

“(1) The blasting technical manager
a) supervises and controls the blasting operations,
b) except if otherwise provided for in this Chapter, and shall be responsible for the performance and fulfilment of the duties and obligations set out in this Chapter.”

(2) Section 70 (5) of the Decree shall be replaced by the following:

“(5) If the blasting technical manager or the blaster considers it necessary to take action beyond his competence, or does not have the necessary technical equipment or staff for the safety of the work, he shall take immediate action for personal safety and report this to his superior or employer without delay.”

28. Section

(1) Section 71 (8) of the Decree shall be replaced by the following:

“(8) Before a blast is commenced, the seismic safety distance shall be determined. For facilities that are to be protected and are situated within the safety distance, the expected vibration load shall be determined as per Section I of Annex 4, taking into account the static characteristics of the facility. The vibration rate calculated with the formula in point 2.3 of section I, subsection 2 of Annex 4 shall not exceed the permissible vibration rate according to the classification given in point 2.4 of section I, subsection 2 of Annex 4.”

(2) Section 71 (9)(a) of the Decree shall be replaced by the following:

(The vibration parameters shall be determined by seismic measurement, if)

“(a) for facilities requiring special protection in accordance with the table in point 2.4 of section I, subsection 2 of Annex 4, the calculated vibration rate shall be at least 80 % of the permissible

vibration rate,”

29. Section

Section 73 (4) of the Decree shall be replaced by the following:

“(4) The blaster will

a) certify with his signature in the register which is kept by the person transferring the explosive that the explosive has been accepted and received,
b) enter the name and quantity of the received explosive in his Explosive Consumption Book and have it certified by the person transferring it,
c) enter the place and time of the blast (year, month, day, hour, minute) and the quantity of the explosive which is to be used in its Explosive Consumption Book before the start of the detonation.”

30. Section

The following paragraph (12) is added to Section 78 of the Decree:

“(12) When electronically programmable detonators are being used, operations shall be carried out in accordance with the manufacturer’s instructions for use.”

31. Section

Section 79 (3) of the Decree shall be replaced by the following:

“(3) The blaster shall check the adequacy of the coupling of the detonators and the insulation and arrangement of the connections.”

32. Section

Section 80(3) of the Decree shall be replaced by the following:

“(3) When carrying out the detonation with an electronic igniter, if the explosion did not occur with the operation of the detonating machine, the blasting technical manager or blaster will disconnect the cartridge wire from the detonating machine, close the wires to short and specify the reason for the failed explosion.”

33. Section

Section 82 (3) to (5) of the Decree shall be replaced by the following:

“(3) The waiting time is measured by the person carrying out the blast operation.

(4) Subsequent to the detonation (immediately after the waiting period has elapsed) the blaster who performs the detonation and has a knowledge of the size and installation of the charges shall ascertain the success of the explosion and collect and register any explosive residue.

(5) With the exception of opencast surface blast operations, the waiting time shall be determined by the blasting technical manager via calculations, and he shall enter the data in RTE after having checked their accuracy with measurements.”

34. Section

Section 83(7) of the Decree is replaced by the following:

“(7) If the blocked charge has not been inactivated, the blaster shall ensure that the said charge is secured and shall ensure that no-one is present within the zone he/she designates and shall report to the blasting technical manager on the measures he has taken.”

35. Section

(1) Section 88(2) of the Decree shall be replaced by the following:

“(2) Only firedamp-proof blasts may be carried out in a mine that carries the risk of firedamp or coal dust explosion, and only explosives, detonating machines and control devices which are secured against firedamp may be used.”

(2) Section 88(4) of the Decree shall be replaced by the following:

“(4) Explosions are only allowed with evacuated air compartments in the case of coal ripping operations of a mine which carries the risk of firedamp and in coal mine roadways with an inclination of over 30° upwards.”

(3) Section 88(8) of the Decree is replaced by the following:

“(8) In a mine with the risk of firedamp, bench working may only take place with air compartments being evacuated.”

36. Section

Section 98(3) of the Decree shall be replaced by the following:

“(3) When the first signal is sounded, the guards, with the exception of those responsible for the explosion, shall immediately send anyone beyond the safety distance or to a protected place. If a building is located within the safety distance, the guards shall call on the occupants to leave or, if the facility is considered to be a protected place, shall warn them of the prohibition of leaving the site.”

37. Section

The following Section 114/A is inserted into Heading 61 of the Decree:

“Section 114/A Unless otherwise provided for in this Chapter, the blasting technical manager shall be responsible for the performance and fulfilment of the duties and obligations set out in this Chapter.”

38. Section

(1) Section 115(1) and (2) of the Decree shall be replaced by the following:

“(1) The owner of the explosive shall destroy any product that is not functioning properly or has an expired warranty period, within 60 days as specified by the manufacturer, unless the authorised

testing body has, after inspection, certified it as satisfactory and has determined its shelf life. The duration of such inspection is not included in the maximum period of 60 days allocated for the destruction.

(2) The holder of an explosive manufacturing authorisation shall regulate, in operational instructions, the manner and location of the destruction of any defective product or waste that derives from the manufacture of explosives or from experiments and tests."

(2) Section 115 (4) to (6) of the Decree shall be replaced by the following:

"(4) The holder of an explosive manufacturing authorisation shall keep records of the materials and products which are to be destroyed,

a) and prepare a mass balance thereof.
b)

(5) In any case, the weather and soil conditions shall be established before destruction is carried out and it is important to take into account any changes to them that might be expected within a short period of time. The destruction may also be carried out by a blaster.

(6) Explosives should be destroyed by explosion or burning based on the blaster's decision, depending on the type of explosives and the local conditions."

39. Section

The following Section 117/A is inserted into Heading 64 of the Decree:

"Section 117/A The person who stores the explosive shall be responsible for the performance and fulfilment of the duties and obligations set out in this Chapter, unless otherwise provided for in this Chapter."

40. Section

Section 126 (1) of the Decree shall be replaced by the following:

"(1) In the absence of natural or permanently installed network lighting, warehouses, storage rooms, storage premises, storage chambers or storage areas should use a type of lighting which presents no risk of ignition to the environment; open flames and smoking are prohibited."

41. Section

The following Section 165/A is inserted into Heading 70 of the Decree:

"Section 165/A The manufacturer or the person who is authorised to use the explosives shall be responsible for the performance and fulfilment of the tasks and obligations set out in this Chapter, unless otherwise provided for in this Chapter."

42. Section

Section 174(4) shall be replaced by the following:

"(4) Vehicles transporting explosives may be driven only by a person who has a valid driving licence for the vehicle category, is aware of the dangerous properties of the explosive which is to be

transported and has gained knowledge of the transport regulations through prior training, and is in possession of a written documentation of the training material studied in the course of prior training.”

43. Section

The following Section 179/A is added to the Decree:

“Section 179/A (1) A person who holds a blasting technical manager’s or blaster’s licence which is valid for a definite period of time and is in possession of this licence on the day preceding the coming into force of SZTFH Decree No …./2024 (of date) amending Decree No 27/2022 of the Supervisory Authority for Regulatory Affairs (SZTFH) of 31 January 2022 on the General Rules of Blasting Safety (hereinafter: Amending Decree 1), may act as a blasting technical manager or blaster until the expiry of the fixed term specified in his licence. After the expiry of the fixed term, the provisions of this Decree laid down in Amending Decree 1 shall apply to the issue of a blasting technical manager’s or blaster’s licence in respect of such persons, with the derogation provided for in paragraph 2.

(2) Blasting technical managers referred to in paragraph (1) may take the mining inspection exam after completing a preparatory training course of 32 hours, and a blaster (or shotfirer) can do so after completing such a training course with a reduced number of 16 hours.”

44. Section

Annex 1 to the Decree is replaced by Annex 1 hereto.

45. Section

Annex 3 to the Decree is amended in accordance with Annex 2 hereto.

46. Section

Annex 4 to the Decree is amended in accordance with Annex 3 hereto.

47. Section

Annex 6 to the Decree is replaced by Annex 4 hereto.

48. Section

In Section 4(1)

1. to the Decree, the word ‘adequate’ is replaced by the words ‘at least secondary technical’;
2. in Section 6(6), the words ‘blasting-technical manager’ are replaced by the words ‘blasting technical manager’;
3. in Section 8(1), the words ‘blasting explosive stores’ are replaced by the words ‘explosive stores’, and the words ‘shall be designated’ are replaced by the words ‘shall be designated by the blasting technical manager’;
4. in Section 9(3)–(5), the words ‘Fire Hazard Class A or B’ are replaced by the words ‘of a highly flammable or explosive class’,
5. in Section 9(6), the words ‘The manufacturing building’ are replaced by ‘The building for explosive production (hereinafter: manufacturing building)’,

6. in Section 8(8), the words ‘The production facility’ are replaced by the words ‘The facility for explosive production (hereinafter: manufacturing facility)’,
7. in Section 11(15), the words ‘the protective capacity shall be verified by means of model tests’ are replaced by the words ‘the operator of the facility will verify the protective capacity by means of model tests’,
8. in Section 12(5)(c), the words ‘reinforced concrete’ are replaced by the words ‘a closed structure built from concrete or reinforced concrete elements’;
9. in Section 22(6), the words ‘blasting explosive’ are replaced by the words ‘explosive’;
10. in Section 32(2), the words ‘of Fire Hazard Class A or B’ are replaced by the words ‘of the highly flammable or explosive class’,
11. in Section 40(5), the words ‘and of Fire Hazard Class A and B’ are replaced by the words ‘and those classified as highly flammable or explosive or those classified as moderately flammable’;
12. in the title of Heading 23, the word ‘in-house’ is replaced by ‘production plant-based’;
13. in Section 50(1), the words ‘shall be checked’ are replaced by the words ‘the manufacturer will check’,
14. in Section 68(4), the words ‘blasting explosive’ are replaced by the words ‘explosive’;
15. in Section 68(5), the words ‘blasting explosive’ are replaced by the words ‘explosive’;
16. in the opening text of Section 69(1), the words ‘Decontaminating operations shall be recorded in an up-to-date work-log, in which it shall be recorded’ are replaced by the words ‘The manufacturer will keep a work-log about decontaminating operations, and in this the manufacturer will record”;
17. in Section 69(3), the words ‘the manager shall’ are replaced by the words ‘manager’ and the words ‘shall register’ are replaced by the words ‘will register’;
18. in Section 69(6), the words ‘blasting explosive’ are replaced by the words ‘explosive’;
19. in Section 70(2), the words ‘shall be controlled by a blasting-technical manager’ are replaced by the words ‘will be controlled by a blasting technical manager’;
20. in Section 70(3), the words ‘shall be regularly checked by the blasting-technical manager’ are replaced by the words ‘the blasting technical manager will regularly check’,
21. in Section 70(4), the words ‘the blasting-technical manager shall take immediate action’ are replaced by the words ‘the blasting technical manager will take immediate action’ and the words ‘to eliminate’ are replaced by the words ‘for the elimination of’,
22. in Section 72(5), the words ‘must be secured by guards, if necessary’ are replaced by the words ‘will secure […] by guards, if necessary’;
23. in Section 72(6), the words ‘the blaster shall’ are replaced by the words ‘the blaster’ and the words ‘shall communicate’ are replaced by the words ‘will communicate’,
24. in Section 72(7), the words ‘shall designate’ are replaced by the words ‘designates’,
25. in Section 72(8), the words ‘must leave’ are replaced by the words ‘should leave’;
26. in Section 73(2), the words ‘the blaster shall check the quantity of explosives’ are replaced by the words ‘the blaster checks the quantity of the explosive’,
27. in Section 74(4), the words ‘shall verify’ are replaced by the words ‘verifies’,
28. in Section 88(1)(c), the words ‘as well as’ are replaced by the words ‘and’;
29. in Section 88(5), the words ‘Gassy of Class II and III’ are replaced by the words ‘Presenting a risk of firedamp’;
30. in Section 88(7)(j), the words ‘as well as’ are replaced by the words ‘and’;
31. in Section 98(4), the words ‘shall immediately notify the blaster of the fact’ are replaced by the words ‘will immediately inform the blaster of this fact’;
32. in Section 100(1), the words ‘blasting-technical manager’ are replaced by the words ‘blasting technical manager’;
33. in the opening text of Section 110(1), the words ‘Fuses’ are replaced by the words ‘As regards fuses, the blasting technical manager’, and the words ‘shall be prepared’ are replaced by the words ‘will prepare’;

34. in Section 112(1), the words ‘shall be recorded in such a way’ are replaced by the words ‘will be recorded in such a way by the warehouse-keeper’;
35. in Section 118(1), the words ‘in a blasting explosive warehouse’ are replaced by the words ‘explosives warehouse’;
36. in Section 121(2), the words ‘shall keep’ are replaced by the words ‘will keep’,
37. in Section 124(4), the words ‘and get it certified’ are replaced by the words ‘and get it certified by the signature of the deliverer or the recipient’,
38. in Section 127(1), the words ‘blasting explosive’ are replaced by the words ‘explosive’;
39. in Section 128(3), the words ‘shall specify’ are replaced by the words ‘will specify’;
40. in the final part of Section 129(5), the words ‘may be stored’ are replaced by the words ‘may be stored together with’;
41. in Section 129(6)(b), the words ‘igniter’ are replaced by the words ‘igniter, or’;
42. in Section 137(2), the words ‘blasting explosive’ are replaced by the words ‘explosive’;
43. in Section 137(3), the words ‘blasting explosives’ are replaced by the words ‘explosives’;
44. in Section 137(5), the words ‘Blasting explosives’ are replaced by the words ‘Explosives’;
45. in Section 137(6), the words ‘in the case of a container’ are replaced by the words ‘in the vicinity of the opening of the container, outside the container’;
46. in Section 137(7), the words ‘hazard zone falling within Fire Hazard Class A to B’ are replaced by the words ‘highly flammable or explosive zone’;
47. in Section 138(3), the words ‘explosives (or blasting explosives)’ are replaced by the words ‘blasting explosives’;
48. in Section 138(4), the words ‘explosives (or blasting explosives)’ are replaced by the words ‘blasting explosives’;
49. in Section 138(6), the words ‘explosives’ are replaced by the words ‘blasting explosives’;
50. in Section 139(1), the words ‘explosive’ are replaced by the words ‘blasting explosive’ and the words ‘explosives’ are replaced by the words ‘blasting explosives’;
51. in Section 145(1), the words ‘explosives’ are replaced by the words ‘blasting explosives’;
52. in Section 145(2)(d), the words ‘5000 items’ are replaced by the words ‘5000 items or’,
53. in Section 145(3), the words ‘explosives and articles containing explosives’ are replaced by the words ‘blasting explosives’;
54. in Section 150(3), the word ‘or’ is replaced by the word ‘and’;
55. in Section 154(3), the word ‘or’ is replaced by the word ‘and’;
56. in Section 157(1) the word ‘and/or’ shall be replaced by the word ‘or’,
57. in Section 166(5), the words ‘shall ensure’ are replaced by the words ‘will ensure’,
58. in Section 170(3), the words ‘shall inform about the transport route in writing’ are replaced by the words ‘will inform about the transport route in writing’,
59. in Section 174(9), the words ‘side wall’ are replaced by the words ‘side and back wall’;
60. in Section 178(5), the words ‘shall ensure’ are replaced by the words ‘will ensure’,
61. in point 4 of Annex 2, the words ‘blasting explosive store’ are replaced by the words ‘explosives warehouse’;
62. in point 5 of Annex 2, the words ‘blasting explosive store’ are replaced by the words ‘explosives warehouse’;
63. in point 6 of Annex 2, ‘4187’ is replaced by ‘4564’;
64. in the opening part of point 8 of Annex 2, the words ‘or’ are replaced by the words ‘and’;
65. in point 8(f)(fa) of Annex 2, the words ‘at blasting explosive stores’ are replaced by the words ‘at explosives warehouses’;
66. in point 1 of Annex 3, the words ‘and/or’ are replaced by the words ‘or’;
67. in point 5, subpoint 5.2 of Annex 3, the words ‘and/or’ are replaced by ‘or’;
68. in point 6, subpoint 6.5 of Annex 3, the words ‘and/or’ are replaced by the words ‘and’

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49.

The following shall be repealed from the Decree:

1. Section 69(5);
2. Section 88(3);
3. Section 89(3);
4. Heading 44,
5. the words ‘highly’ in the opening text of Section 163(2),
6. in Section 172(2), the words ‘This provision shall not apply to gassy mines of class II and III’,
7. Heading 77,
8. in Annex 4, section I, subsection 2, points 2.5 and 2.6 are repealed.

50. Section

This Decree shall enter into force 8 days following its publication.

51. Section

(1) This Decree serves the purpose of compliance with Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market.

(2) The requirement for the prior notification of this draft decree, as stipulated in Articles 5–7 of Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services, has been met.

Dr László Nagy
president

"Annex 1 to Decree No 27/2022 of 31 January 2022 of the Supervisory Authority for Regulatory Affairs (SZTFH)

Training material for the blasting technical manager's and blaster's preparatory course

I. General knowledge for each scope of competence

1. Knowledge of explosives
   1.1. key characteristics of explosives
   1.2. classification of explosives
   1.3. volume and weight power of explosives
   1.4. key characteristics of initiating charges
   1.5. types of igniters/detonators and their characteristics
   1.6. explosives produced via in-situ mixing
   1.7. concept of an explosion chain
   1.8. identification of and electronic traceability system for explosives

2. Explosion technology devices
   2.1. instruments for monitoring electric and electronic igniters and electric blasting hook-up systems
   2.2. programming and data collection instrument for electronic igniters (logger)
   2.3. blasting machine performance-testing instruments
   2.4. seismometers and air blast measuring instruments
   2.5. insulation strength testing instruments
   2.6. earth connection testing instrument
   2.7. other instruments, in particular GPSs, wall scanners, hole slant meters, storm detectors
   2.8. dewatering of blast holes with a pump
   2.9. computer-based simulation programmes

3. Blasting hook-up (explosion systems)
   3.1. blasting hook-up systems consisting of electric, NONEL and electronic igniters
   3.2. requirements for initiating charges
   3.3. fault detection in blasting hook-up systems

4. Drafting of explosion technology specifications (RTE) and other technical specifications

5. Authorisation procedures
   5.1. authorisation for use of explosives
   5.2. authorisation for the acquisition of explosives
   5.3. authorisation for the destruction of explosives
   5.4. authorisation for the storage of explosives

6. Storage and transport of explosives
   6.1. types of explosive warehouses
   6.2. warehouse-keeper's tasks and duties
   6.3. register of explosives (storage book and consumption book)
   6.4. transport of explosives at the workplace
   6.5.explosives transfer note and consignment documents

6.6. road transport, basic knowledge of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

7. Environmental impacts of blasts and ways of reducing them
   7.1. seismic effect
   7.2. cracking effect for fragmentation
   7.3. air blast
   7.4. toxic gases and dusts
   7.5. reasons for cartridge mispositioning and method of their elimination

8. Destruction of explosives
   8.1. destruction by incineration
   8.2. destruction by explosion

9. Legal knowledge
   9.1. Decree No 27/2022 of the Supervisory Authority for Regulatory Affairs (SZTFH) of 31 January 2022 on the General Rules for Blasting Safety
   9.2. Government Decree No 121/2016 of 7 June 2016 on the distribution and supervision of explosives for civil uses
   9.3. Decree No 28/2022 of the Supervisory Authority for Regulatory Affairs (SZTFH) of 31 January 2022 on the distribution and supervision of explosives for civil uses

II. For each scope of competence:

1. Curriculum for opencast mining and standard surface blast operations

   1.1. General knowledge (material for Part I)
   1.2. Theory
      1.2.1. parameters for large drilling hole technologies in quarries
      1.2.2. measurements for large drilling hole surface blasts and simulation of undesirable effects, in particular wall scanning, 3D models, hole slant measurement
      1.2.3. charge/cartridge structures (continuous, split, air-gap)
      1.2.4. means and methods for dewatering blast holes
      1.2.5. blasts with post-loaded charges
      1.2.6. contour mining
      1.2.7. case studies for surface blasts
      1.2.8. action in the case of blocked charges/cartridges
      1.2.9. set of signals used for blasts (hand and audible signals)
   1.3. Practice
      1.3.1. design of the explosion system (series, parallel networks)
      1.3.2. handling and arrangement of igniters
      1.3.3. resistance measurement
      1.3.4. programming of electronic igniters
   1.4. Actions in the event of exceptional occurrences

2. Training material for seismic blast operations
   2.1. General knowledge (material for Part I)
   2.2. Theory
      2.2.1. types of seismic blasting
      2.2.2. short-depth seismic exploration blasts
      2.2.3. long-depth seismic exploration blasts
      2.2.4. explosives and igniters for seismic exploration blasts
      2.2.5. individual and group blasts

2.2.6. reflection and refraction tests
2.2.7. the vibroseis process

2.3. Practice
2.3.1. search and discovery of measurement lines (arrangements)
2.3.2. verification of the dimensions of the blast holes
2.3.3. possible ways to initiate charges
2.3.4. blast on the surface of the arrangement

2.4. Actions to be taken in the event of exceptional occurrences, in particular the inactivation of blocked charges, depending on the depth of installation

3. Training material for metallurgical blast operations
3.1. General knowledge (material for Part I)
3.2. Theory
3.2.1. the thermal tolerance of explosives
3.2.2. explosion of hot materials
3.2.3. design of loading spaces
3.2.4. cooling of loading spaces
3.2.5. heat protection of charges/cartridges, thermal insulation
3.2.6. charge detonation time
3.2.7. cutting and chopping of metals or solidified metallurgical melts
3.2.8. unique (special) security measures
3.3. Practice
3.3.1. thorough understanding of the site and the local conditions
3.3.2. preparation of loading cavity by drilling or with oxygen lance
3.3.3. loading, arming
3.3.4. insulation of the explosion system (blasting hook-up)
3.3.5. chopping of metals with cutting charge
3.3.6. use of a specific signal sequence other than environmental noise

3.4. Actions in the event of exceptional occurrences

4. Training material for blasting operations on buildings
4.1. General knowledge (material for Part I)
4.2. Theory
4.2.1. technical specifications, static tests
4.2.2. authorisation procedure
4.2.3. cartridge structures (continuous, split, air-gap)
4.2.4. safety distance
4.2.5. calculation of the standard charge
4.2.6. facilities to be protected
4.2.7. application and use of fragmentation reducing devices
4.2.8. blast of chimneys and high structures (dismantling – felling)
4.2.9. geometry of destruction zones (so-called “holding” or “rolling” surfaces)
4.2.10. location of rotational axis for objects with different materials
4.2.11. construction and demolition works prior to building destruction via explosion
4.2.12. blasting of metal structures, with linear and flexible, cumulative charges that disrupt and cut metal
4.2.13. blasting of underwater structures
4.2.14. protection of utility lines when felling buildings

4.2.15. information for utility operators and the general public
4.2.16. closing of the detonation area
4.2.17. seismic and air-blast measurement for objects that are to be protected
4.2.18. drawing up of an explosion report
4.3. Practice
4.4. Actions in the event of exceptional occurrences

5. Training material for underwater and ice explosion works
5.1. General knowledge (material for Part I)
5.2. Theory
5.2.1. relevant water legislation
5.2.2. cooperation with other organisations
5.2.3. execution of explosions during a control period
5.2.4. execution of explosions outside the control period
5.2.5. ice in standing and running water
5.2.6. explosives ready-to-use and their placement in underwater spaces
5.2.7. detonating machines, detonating network monitoring equipment
5.2.8. ice explosion – purpose and technology,
5.2.9. ice explosion – methods
5.2.9.1. explosion of drift ice and ice lobe
5.2.9.2. explosion of perpetual ice cover and log-jammed ice
5.2.9.3. ice explosion from an ice-breaking vessel or helicopter
5.2.9.4. de-snowing and defrosting of open-surface canals via explosion
5.2.10. special explosive charges, in particular charges to punch ice, guided charges that can be loaded on-site, post-loaded charges and their specialised equipment
5.3. Practice
5.4. Actions in the event of exceptional occurrences

6. Training material for deep drilling-related blasting operations
6.1. General knowledge (material for Part I)
6.2. Theory
6.2.1. purpose of bore-hole lining
6.2.2. perforation of liners, impact of hole depth on perforation efficiency
6.2.3. types of perforating guns, functioning
6.2.4. pressure and heat-resistant explosives and detonators for use in deep drillings
6.2.5. bore-hole seal installation
6.2.6. release and cutting of drill-rods
6.2.7. purpose and theoretical justification of torpedoing
6.2.8. function and design of the cumulative charge
6.2.9. rock sampling equipment and its explosive
6.2. Practice
6.3.1. sampling from side-walls
6.3.2. perforation
6.3.3. construction and use of the perforating gun
6.3.4. types and scope of torpedoes
6.3.5. release of stuck tools by exploding
6.3.6. increase of well yield by perforation
6.4. Actions in the event of exceptional occurrences

6.4.1. inactivation of blocked charges

6.4.2. construction requirements, in particular double ignition, ratio of hole to structure diameter, post-loading

7. Training material for underground blasting operations

7.1. General knowledge (material for Part I)

7.2. Theory

7.2.1. types of hole in the case of drifts and tunnelling drives via explosion

7.2.2. role of cutting and benching, methods of their development

7.2.3. longwall advancing blast technologies (e.g. sump, parting, bench working)

7.2.4. contour mining via explosions

7.2.5. designation of the location of an explosion station for underground blasting operations

7.2.6. determination of smoke-ventilation time for underground blasting operations

7.2.7. special blasts (exploitation of metal lining, demolition of masonry and dams by explosion, loosening explosion of chutes/hoppers)

7.3. Practice

7.4. Actions in the event of exceptional occurrences

1. Point 9 of Annex 3 to the Decree is replaced by the following:

“9. determination of the safety distance, the need to reduce fragmentation effects, its possibilities, in particular the use of geotextile or the combined use of wire mesh and geotextile for the facilities that must be protected in order to reduce the cracking effect, the manner in which they are placed, the type of materials that are to be used, their thickness, the value in g/m² and the size and form of overlaps”.

2. Point 15 of Annex 3 to the Decree is replaced by the following:

“15. other measures necessary to ensure the safety of life and property, in particular the de-tensioning of the power line, the de-pressurisation of the pipeline, the allocation of seismic measurement sites for structures within the impact area, and a static assessment of the structures affected by the impact area prior to the first explosion”

1. Section I, point 1 of Annex 4 to the Decree is replaced by the following:

"1. The seismic safety distance, which does not necessarily entail damage to buildings within that distance, shall be determined by the following formula or in the form of an expert opinion:

$$L=\left(\frac{v_i}{k\cdot Q_f^n}\right)^{\frac{1}{m}}$$

1.1. For the purposes of the formula in point 1
1.1.1. 'L': is the seismic safety distance, expressed in m,
1.1.2. 'Qf' is the mass of the standard charge, in kg,
1.1.3. 'k', 'n' and 'm' are factors that take into account the conditions of the explosion based on the data shown in the following table"

constants	**crystalline rock**	**eruptive rock**	**sedimentary rocks**			
	granite, granodiorite	**andesite, basalt, gneiss**	**crystalline limestone**	**dolomite**	**other sedimentary rock**	**slate, clay**
k	206	235	646	897	969	1299
n	0.80	0.80	0.59	0.68	0.60	0.60
m	-1.3	-1.27	-1.52	-1.51	-1.50	-1.52

2. Section I, subsection 2, point 2.3 of Annex 4 to the Decree is replaced by the following:

"2.3. For the preliminary estimation of the value of the expected vibration rate, the following formula shall be used:

$$v=k\cdot Q_f^n\cdot l^m$$

2.3.1. For the purposes of the formula in point 2.3:
2.3.1.1. 'v' is the vibration rate (mm/s),
2.3.1.2. 'Q_f' is the mass of the standard load (kg),
2.3.1.3. 'l' is the distance between the detonation and the object to be protected (m),
2.3.1.4. 'k', 'n' and 'm' are factors that take into account the conditions of the detonation as shown in the data of the table in section 1, subsection 1.1., point 1.1.3.

3. Point 2.4 of section I, subsection 2 of Annex 4 to the Decree is replaced by the following:

"2.4. The permissible vibration rates shall be selected according to the following table. Of the three frequency bands, if seismic measurements have not yet been made, the permissible vibration rate value corresponding to f¿10 *Hz* shall be taken into account. For seismic measurements, the

permissible vibration rate shall be selected on the basis of the frequency of vibrations.

Building type	The maximum vibration rate component, v_i permissible values, (mm/s)			
	At the base (foundation) of the building			At the uppermost full level (storey) in the floor plane
	f < 10 Hz	f = 10-50 Hz	f = 50-100 Hz	At any frequency
Industrial buildings and structures, reinforced concrete or steel frame construction, canals, channels and other pipelines at a depth of more than 0.8 m, as well as assemblies and other underground spaces, tunnels, railways, roads, telpher, electrical power lines	20	15 + 0.5f	30 + 0.2f	40
Residential and similar buildings	5	2.5 + 0.25f	10 + 0.1f	15
Facilities requiring special protection, monuments, producing oil and natural gas wells, and pipes and fittings under pressures higher than 0.017 MPa and lower than 0.07 MPa	3	1.75 + 0.125f	6 + 0.04f	8
Statically insecure, damaged buildings that do not meet the construction requirements	By expert judgement			

For frequencies above 100 Hz, the guide value shall be the value in the table for 100 Hz."

4. Point 1.6 in section II, subsection 1 of Annex 4 to the Decree is replaced by the following:

"1.6 The extent of the cracking effect that is expected with blasts which are performed with the use of charges of a large diameter for rock breaking and the area of the safety zone shall be determined by using the following formula:

$$R = 14 \cdot \frac{d^{1,33}}{W} \cdot \sqrt{\frac{\rho_{r.a.} \cdot Q}{m}}$$

1.6.1. For the purposes of the formula in Section 1.6,
1.6.1.1. 'd' is the actual diameter of the charge, expressed in m;
1.6.1.2. 'W' is the size of the connector, in m;
1.6.1.3. '$\rho_{r.a.}$ is the loading density of the explosive, in kg/m^3;
1.6.1.4. 'Q' is the explosion heat of the explosive, in kJ/kg;
1.6.1.5. 'm' is the value of the proximity factor: the distance between adjacent charges divided by the connector.'

5. In section II, point 1 of Annex 4 to the Decree, the following points 1.7 and 1.8 are added:

“1.7. A dangerous cracking effect may occur if the size of the connector divided by the diameter of the explosive is less than or equal to 20 $[W/d]_{r.a.} \leq 20$] or the length and material of the containment is insufficient and inadequate. The ratio between the connector and the diameter of the charge shall be greater than 20.

1.8. According to point 1.6, half the rate of the cracking effect determined in the direction of the shooting shall be taken into account on the sides perpendicular to the direction of the shooting and on the side opposite to the direction of the shooting.”

6. Point 2 in Section II of Annex 4 to the Decree is replaced by the following:

“2. In cases not listed in point 1, the safety distance shall be determined by the blasting technical manager on the basis of the type of explosive used, the position of the charge, the exploded or broken material, the local conditions and the protective equipment used.

2.1. The safety distance of the cracking effect in the direction of rock shooting, as determined by the expression in point 1.6, shall be valid with nearly vertical surfaces if:
(a) the length of containment is $L_f = W$, in m, but not less than 2.0 m, or at least 20 d,
(b) the material of containment consists of ballast or stone chippings, and
(c) the ballast size is $1/3d_{ly}$where d_{ly} is the diameter of the blast-hole in mm.

2.2. For nearby objects to be protected, the bank exposed to the blasting shall be measured with instruments to discover the locations that can be defined with the formula $W/d_{r.a.} \leq 20$

2.3. In positions where $W/d_{r.a.} \leq 20$, the blast holes shall be filled with inert material.

2.4. The angle of inclination for the blast holes shall preferably be 90^{o}.

2.5. In order to reduce the level of fragmentation, for the timing system millisecond detonators should be used.”

Annex 4 to Decree No …../2024 (… …) of the Supervisory Authority for Regulatory Affairs (SZTFH)

“Annex 6 to Decree No 27/2022 of 31 January 2022 of the Supervisory Authority for Regulatory Affairs (SZTFH)

Classification of electric detonators

	A	B	C	D	E
1.	Classification	Grade I	Grade II	Grade III	Grade IV
2.	Stray current safety, I (A)	0.18 < Inf < 0.45	0.45 < Inf < 1.2	1.20 < Inf < 4	4 < Inf
3.	Impulse sensitivity (mJ/ohm)	0.5	8	80	500
4.	Electrostatic sensitivity, on low-tension detonator cap (mJ/Ω)	0.3	6	60	300
5.	Electrostatic sensitivity, between low-tension detonator cap and igniter sleeve (mJ/Ω)	0.6	12	120	600

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