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**Minimum technical conditions for CHECKS**

**ON GAMING EQUIPMENT**

Having regard to:

Government Emergency Ordinance No 20/2013 on the establishment, organisation and functioning of the National Office for Gambling and amending and supplementing Government Emergency Ordinance No 77/2009 regarding the organisation and operation of games of chance, as subsequently amended and supplemented;

Government Decision No 298/2013 on the organisation and functioning of the National Office for Gambling as subsequently amended and supplemented;

Pursuant to the provisions of Article 19(4) of Government Emergency Ordinance No 77/2009 on the organisation and operation of games of chance, as subsequently amended and supplemented,

the National Office for Gambling will be required to issue technical standards that should include the minimum technical requirements for checks on gaming equipment to be applied by the Romanian Bureau of Legal Metrology and conformity evaluation bodies, during the course of their duties.

**CHAPTER I**

**GENERAL PROVISIONS**

**SECTION 1**

**Purpose, objectives, scope and definitions**

The minimum technical requirements for checks on gaming equipment establish the technical framework for the regulation of gaming equipment in relation to the conditions in which activity takes place, the minimum requirements necessary for it to function legally and the applicable procedures for carrying out technical checks on all machines, installations, devices, gaming tables and other gaming equipment – for traditional games.

1. **Purpose of the document:**
   1. to establish a set of minimum technical requirements for gaming equipment that will cover security, correct operation and software and hardware integrity;
   2. to ensure that players are correctly informed;
   3. to monitor receipts and payments and ensure the declared win percentages and operation correspond to the win table, and ensure that the random number generator (RNG) is operating correctly;
   4. to establish a set of criteria that will permit the Romanian Bureau of Legal Metrology and the conformity evaluation bodies to evaluate the conformity of slot machine type gaming equipment in an unitary, traceable manner that enables an audit to be performed of the way the evaluation has been performed.
2. **Desired objectives:**
   1. to create an efficient and appropriate regulatory and technical checking mechanism for gambling equipment, in order to prevent abusive practices with a negative impact on players, as well as certain illegal practices;
   2. to ensure the integrity of the gaming equipment and its correct operation, for all parties involved: players, organisers, authorities;
   3. to ensure that players are protected against any possible physical injury;
   4. to provide the conditions for a functional audit to be performed of the gaming equipment, so that it is possible to identify the defective function, attempted fraud and incomes obtained from operation;
   5. to prevent fraudulent use of slot machine type gaming equipment;
   6. to ensure more transparency in the technical checking of gambling equipment, higher economic efficiency;
   7. to ensure appropriate security and protect players’ interests;
   8. to ensure better conditions for correct operation of the market for economic operators undertaking gaming equipment manufacturing, distribution, repair and maintenance activities, importation, exportation, intracommunity purchasing, intracommunity delivery or other activities involving gaming equipment, for the purposes of marketing it or using it, in any form, on Romanian territory;
   9. to ensure non-discriminatory third-party access to relevant information regarding gambling equipment subject to the technical checks performed by the Romanian Bureau of Legal Metrology and the licensed conformity evaluation bodies of the National Office for Gambling;
   10. to develop specific accreditation schemes (national accreditation body) based on this document;
   11. to promote, stimulate and ensure competition in the gambling market, as well as the safe operation of gambling equipment on Romanian territory.
3. **Scope:**
   1. This document refers to the general requirements and specific requirements for technical checks of gaming equipment, which are covered by Article 19(1) of Government Emergency Ordinance No 77/2009 on the organisation and operation of games of chance, as subsequently amended and supplemented.
   2. The document applies to the following entities:

a) the National Office for Gambling;

b) the Romanian Bureau of Legal Metrology and the licensed conformity evaluation bodies of the National Office for Gambling;

c) economic operators;

1. **For the purposes of this document, the following definitions apply:**
2. ‘gaming equipment’ means any assembly of elements, including the IT system – comprising software, hardware and means of communication – which serves or permits games of chance to be organised, played or participated in, whether it independently generates the random elements underlying the games of chance or whether its purpose is established by the manufacturer.
3. ‘making available on the market’ means supplying a product for distribution, consumption or use on the market during the course of a commercial activity, whether free of charge or for a consideration;
4. ‘placing on the market’ means making a product available on the market for the first time;
5. ‘manufacturer’ means any legal person that manufactures a product or for which such a product is designed or manufactured and which places this product on the market in its own name or under its own brand;
6. ‘manufacturer’s representative’ means any natural or legal person who/that has received a written mandate from a manufacturer to act on their/its behalf in connection with specific duties;
7. ‘importer’ means any legal person introducing a product onto the market from a non-EU country;
8. ‘distributor’ means any legal person in the distribution chain other than the manufacturer or the importer, which makes a product available on the market;
9. ‘economic operators’ means the producer, their representative, the importer, distributor or holder of the gambling equipment.
10. ‘technical specifications’ means a document setting forth the technical requirements to be met by a product, process or service;
11. ‘accreditation’ – as per the definition provided for in Article 2(10) of Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93;
12. ‘national accreditation body’ – as per the definition provided for in Article 2(11) of Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008, setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93;
13. ‘conformity evaluation’ means the process of evaluation of whether it has been demonstrated, for a product, process, service, system, person or body, that the specified requirements have been met;
14. ‘conformity evaluation body’ means a body that undertakes conformity evaluation activities, including calibration, testing, certification and inspection, including the Romanian Bureau of Legal Metrology;

**SECTION 2**

**Requirements regarding technical checks on gaming equipment**

1. **General requirements regarding the performance of technical checks on gaming equipment**

1.1. All gaming equipment used in the organisation of traditional games of chance must undergo the technical check and is used both in games of chance organised under a licence granted by the National office of Gambling (ONJN), and in those organised by the National Company Loteria Română SA.

1.2. Technical checks of gaming equipment are performed by the Romanian Bureau of Legal Metrology or by conformity evaluation bodies licensed by the ONJN, through the following processes:

a) type approval;

b) initial technical check;

c) periodic technical check;

d) post-repair technical check.

1.3. For each type (category) of gaming equipment, the ONJN establishes specific technical standards for checks, which define the technical characteristics of the gaming equipment and the minimum technical conditions to be met by the gaming equipment.

1. **Type approval**

2.1. ‘Type approval’ means all of the operations whereby it is attested that a type (model) of gaming equipment conforms to the applicable technical standards for checks. Type approval is granted by evaluating the model of gaming equipment according to the specific technical standards for checks of that type of gaming equipment. If evaluation of the model is positive, the Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN that performed the evaluation issues a type approval certificate.

2.2. Type approvals are granted for a period of 10 years.

2.3. Gaming equipment that conforms to the approved model shall be marked with the type mark, which includes the type approval number and the date on which it was granted, in the format ‘text’ xxxx/yy, where ‘xxxx’ is the type approval number (the numbering system begins with 1 for each calendar year), ‘yy’ is the year in which the type approval was granted, and ‘text’ may be the abbreviation of the name of the conformity evaluation body that evaluated the gaming equipment.

2.4. All gaming equipment that has obtained type approval shall have a holder inside for the conformity label, bearing the type mark and the authentication mark, known as the ‘Type mark compartment’. The authentication mark is a self-destructive self-adhesive mark with a unique serial number. When applied to the type conformity label, it authenticates the type mark and ensures that it is possible to manage gaming equipment of a certain type introduced onto the market.

2.5. Having obtained the type approval, in all gaming equipment complying with the approved type and introduced onto the market and which is to undergo the initial check with a view to authorisation, the conformity label, type mark and authentication marks are placed in the ‘type mark compartment’.

2.6. The type approval is granted on the request of the economic operators defined in Chapter I, Section 1, Part IV.

2.7. The evaluations necessary in order to grant type approvals will be performed by the Romanian Bureau of Legal Metrology or the conformity evaluation bodies licensed by the ONJN in their own laboratories. Exceptionally, in justified cases (e.g. gaming equipment of large dimensions) the evaluations may also be performed in other locations that meet the necessary technical conditions to perform the tests and within the limits of the accreditation in the case of licensed conformity evaluation bodies. The entity performing the evaluation shall be responsible for ensuring that the necessary technical conditions are met.

2.8. Once the type approval has expired, it shall be forbidden to perform initial technical checks. Gaming equipment that has previously undergone an initial technical check will be able to continue undergoing periodic or post-repair checks if it can meet the conditions provided for in this document, at a technical level.

2.9. Type approval consists in evaluation of the viability of the planned gaming equipment by examining the technical documentation, plus examination of a representative model for the production of this gaming equipment.

2.10. Type approval is granted by the Romanian Bureau of Legal Metrology or by conformity evaluation bodies licensed by the ONJN, accredited by the national accreditation body defined in Chapter I, Section 1, Part IV, under the conditions established in Regulation (EC) No 765/2008.

2.11. The economic operators defined in Chapter I, Section 1, Part IV shall submit their type approval applications to the Romanian Bureau of Legal Metrology or to a conformity evaluation body licensed by the ONJN, as they choose. The application should include:

a) the name and address of the manufacturer and should specify the name and address of the economic operator;

b) a written declaration to the effect that the same declaration (has/has not) been submitted to another licensed conformity evaluation body or to the Romanian Bureau of Legal Metrology; if it has been submitted, specify the name of the body, the date of the evaluation and the outcome of the evaluation report;

c) a declaration regarding their rights of ownership over the IT software, the industrial designs, the brands used, etc.

d) the technical documentation;

e) the representative model(s) for manufacture of the gaming equipment.

2.12. The technical documentation makes it possible to evaluate the conformity of the gaming equipment to the requirements of the specific technical standards for checks of that type of gaming equipment approved by this Order of the President of the ONJN for the type (category) of gaming equipment in question and includes appropriate analysis and a risk assessment. The technical documentation shall specify the applicable requirements and, to the extent that it is relevant to the evaluation, cover the design, manufacture and operation of the gaming equipment.

2.13. The technical documentation shall, as applicable, include a minimum of the following elements:

a) a general description of the gaming equipment;

b) the circuit diagrams and a description of all of the connectors and pinouts for every subassembly;

c) the descriptions and explanations necessary in order to understand these drawings and diagrams and the operation of the gaming equipment;

d) a list of the standards and/or other relevant technical specifications applied, complete or partial, and descriptions of the solutions adopted to meet the requirements of the specific technical standard for checks approved by this Order of the President of the ONJN for the type (category) of gaming equipment in question;

e) the results of the design calculations, examinations performed, etc.

2.14. The Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN may request additional models, should this be necessary for the test programme.

2.15. The Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN shall:

2.16. for the product: examine the technical documentation and additional evidence to assess whether the technical drawing of the gaming equipment is adequate;

2.17. For model(s):

a) check whether the model(s) has/have been manufactured in accordance with the technical documentation;

b) perform the corresponding examinations and tests, to check whether the solutions adopted by the manufacturer meet the corresponding requirements of the specific technical standard for checks approved by this Order of the President of the ONJN for the type (category) of gaming equipment in question.

2.18. The Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN shall write up an evaluation report showing the activities carried out and the results thereof.

2.19. In the event that the type meets the requirements of the specific technical standard for checks approved by this Order of the President of the ONJN for the gaming equipment in question, the Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN shall issue a type approval certificate for the economic operator. The certificate shall include the name and address of the manufacturer, the conclusions of the examination, the validity conditions (if there are any) for the certificate and the necessary data for identification of the approved type. The certificate may have one or more annexes attached.

2.20. The certificate and its annexes shall contain all of the relevant information for evaluation of the conformity of the manufactured gaming equipment with the examined type and for in-service checks.

2.21. In the event that the type does not meet the requirements of the specific technical standard for checks approved by this Order of the President of the ONJN for the type (category) of gaming equipment in question, the Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN shall refuse to issue a type approval certificate and inform the applicant accordingly, giving detailed reasons for the refusal.

2.22. The economic operators shall inform the Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN holding the technical documentation relating to the type approval certificate, of any modifications to the approved type that might affect the conformity of the gaming equipment with the requirements of the specific technical standard for checks approved by this Order of the President of the ONJN for the type (category) of gaming equipment in question or the terms of validity of the certificate. These modifications require additional approval in the form of a supplement to the original type approval certificate.

2.23. The Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN shall inform the ONJN regarding the type approval certificates and/or with any supplements thereto that it has issued or withdrawn and, periodically or on request, make available to the ONJN the list of certificates and/or any supplements thereto that have been refused, suspended or otherwise restricted.

2.24. The Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN shall inform the other licensed conformity evaluation bodies or the Romanian Bureau of Legal Metrology regarding the type approval certificates and/or any supplements thereto that it has refused, withdrawn, suspended or otherwise restricted and, based on a request, regarding the certificates and/or supplements thereto that it has issued.

2.25. The Romanian Bureau of Legal Metrology or the conformity evaluation body licensed by the ONJN shall retain a copy of the type approval certificate and its annexes and supplements, as well as the technical file including the documentation submitted by the manufacturer, until expiry of the validity of the certificate.

2.26. Economic operators shall keep an original copy of the type approval certificate and its annexes and supplements available to the ONJN, together with the technical documentation, for a period of 10 years from the introduction of the product onto the market.

2.27. Economic operators who have applied for type approval shall take all measures necessary to ensure that products manufactured under this type approval conform to the approved type.

1. **Technical checks**

3.1. The technical check consists of a series of operations whereby it is attested that gaming equipment conforms to the approved type and to the provisions of the technical standard for checks applicable to it. If the gaming equipment passes the technical check, the applicant will be issued a technical check certificate.

3.2. The validity period of the initial technical check and the periodic technical check shall be at least 12 months but not later than the last day of the month in which the technical check expires.

3.3. *The initial technical check* shall be performed before commissioning the gaming equipment, once the type approval has been obtained.

3.4. *The periodic technical check* is performed after the initial check and attests to the continuing conformity of an item of gaming equipment to the approved type and to the provisions of the technical standard for checks that apply to the gaming equipment throughout its working life.

3.5. *The post-repair technical check* is performed before using gaming equipment that has been repaired, even if prior to the repair the gaming equipment was within the term of validity of the previous technical check. The post-repair technical check is only performed within the validity period of a previous technical check and does not extend the previous technical check.

3.6. Applications for a post-repair technical check must be accompanied by a repair statement declaring who performed the repair and the licence under which the operation was performed on the gaming equipment, what the repair involved (components replaced, seals broken, etc.), so that it is possible to establish both the legality of the operation, and the scale of the repair.

3.7. Technical checks of gaming equipment shall be performed in accordance with the technical standards for checks approved by this Order of the President of the ONJN for each type (category) of gaming equipment.

3.8. Gaming equipment for which, following the technical check, a technical check certificate is issued and marked with a self-destructive self-adhesive check mark with a unique serial number and/or other categories of marking.

3.9. Repairs to gaming equipment shall be performed by economic operators with a Class II licence for repairing gaming equipment or by economic operators with a Class I licence for the gaming equipment that they have in operation.

1. **Requirements regarding gaming equipment conformity evaluation bodies**

4.1. In order to evaluate the conformity of gaming equipment and be licensed, a conformity evaluation body must cumulatively fulfil the following requirements:

1) to be established under national legislation and have legal personality;

2) to be accredited by the national accreditation body defined in Chapter I, Section 1, Part IV, in accordance with Regulation (EC) No 765/2008 and based on the harmonised standards published in the Official Journal of the European Union corresponding to the conformity evaluation tasks for the gaming equipment in question;

3) to be a third-party body, independent of the organisation or the gaming equipment that it is evaluating;

4) the conformity evaluation body, its management staff and the staff responsible for performing the conformity evaluation tasks must not be design engineers, manufacturers, suppliers, installers, purchasers, owners, users or maintenance operators of the gaming equipment that they are evaluating, or representatives of any of these parties;

5) the conformity evaluation body, its management staff and the staff responsible for performing the conformity evaluation tasks shall not be directly involved in the design, manufacture or construction, marketing, installation, use or maintenance of the gaming equipment that they are evaluating, nor represent the parties engaged in these activities;

6) the conformity evaluation body, its management staff and the staff responsible for performing the conformity evaluation tasks shall not be involved in activities that might affect their impartiality or integrity regarding the conformity evaluation activities for which they are licensed;

7) the conformity evaluation body shall ensure that the activities of its branches do not affect the confidentiality, objectivity or impartiality of its conformity evaluation activities;

8) the conformity evaluation body and its staff shall perform conformity evaluation activities at the highest level of professional integrity and technical competence in the respective field and must be free of any pressures and incentives, particularly financial, that might be liable to influence their assessment or the outcome of their conformity evaluation activities, especially from persons or groups of persons with an interest in the outcome of these activities;

9) the conformity evaluation body shall be capable of carrying out all conformity evaluation tasks requested of it or for which it is accredited with a view to licensing by the ONJN, regardless of whether these duties are performed by the conformity evaluation body itself or on its behalf and under its responsibility. Each time, for each conformity evaluation procedure and for each type or category of gaming equipment, the conformity evaluation body shall have access to:

(a) the necessary staff with sufficient and appropriate technical knowledge and experience to perform the conformity evaluation tasks;

(b) the necessary descriptions of the procedures used to perform conformity evaluations, ensuring that there is transparency and the possibility of reproducing the procedures in question;

(c) appropriate policies and procedures that clearly distinguish between the duties carried out as a licensed body and any other activity;

10) the conformity evaluation body must have the necessary means to correctly carry out the technical and administrative duties associated with the conformity evaluation activities, as well as access to all of the necessary equipment or facilities;

11) the staff responsible for carrying out the conformity evaluation activities must possess the following:

(a) sound technical and professional training covering all of the conformity evaluation activities for which the conformity evaluation body seeks accreditation or is accredited with a view to licensing by the ONJN;

(b) satisfactory knowledge of the requirements of the evaluations that they perform and of the corresponding authorities for the performance of these evaluations;

(c) knowledge and understanding corresponding to the technical requirements regarding the gaming equipment for which the body is seeking accreditation or is accredited with a view to licensing and regarding the relevant instruments of national legislation, as well as European legislation where applicable, concerning gambling;

(d) the necessary ability to draw up certificates, evidence and reports to demonstrate that the evaluations have been carried out.

12) the impartiality of the conformity evaluation bodies, their staff and their evaluation staff must be guaranteed.

4.2. The staff of the conformity evaluation body shall maintain professional secrecy regarding all information obtained in the course of carrying out the duties for which it has been licensed. All copyrights are reserved.

**CHAPTER II**

**MINIMUM TECHNICAL CONDITIONS FOR CHECKS ON SLOT MACHINE TYPE GAMING EQUIPMENT**

**SECTION 1**

**Construction and operational requirements**

1. **Requirements regarding operational security**

5.1. All slot machine type gaming equipment (Electronic Gaming Machines or EGM) undergoing type approval testing in order to be authorised for operation on national territory must meet the requirements of the applicable legislation, bear the legal markings and be accompanied by the corresponding declaration of conformity.

5.2. Any EGM undergoing type approval testing in order to be authorised for operation on national territory must be fitted with a minimum of the following elements:

5.3. one or more shells, as applicable, generically known as ‘gaming equipment cabinets’, must separate players and/or staff from the space containing the subassemblies of which the EGM is made;

5.4. one or more zones containing the critical electronic equipment (logical zones) running the game. These must be adequately protected and have fittings for applying seals. This zone or zones will be generically referred to as the ‘CPU box(es)’;

5.5. a form of protection against manipulation of the electromechanical meter fitted to the EGM, in accordance with the provisions of national legislation and which will hereinafter be generically referred to as ‘the Meter box’.

5.6. The electric and mechanical components of electronic gambling machines must be manufactured and assembled in such a way that they cannot cause any kind of physical injury to players, whether electrical or mechanical.

5.7. The electromagnetic disturbances produced by slot machine type gaming equipment in operation must be within the limits provided for in the harmonised legislation.

5.8. The Romanian Bureau of Legal Metrology or licensed conformity evaluation bodies shall only accept technical check requests for slot machine type gaming equipment that bears the conformity marks and is accompanied by the documentation provided for in the applicable legislation in force.

1. **Requirements regarding the information accompanying any slot machine type gaming equipment**

6.1. Every model of slot machine type gaming equipment (EGM) must be accompanied by relevant documentation (instruction manual) regarding its construction, commissioning, configuration, operation and servicing. This documentation may be presented in a single document (manual) or multiple documents (e.g. user’s manual – installation, configuration and use and the service manual).

6.2. The instruction manual/manuals must comply with standard SR EN 82079.

6.3. In the documentation accompanying the slot machine type gaming equipment, the manufacturer must specify the climatic and mechanical environmental conditions for which correct operation is guaranteed; if there are any critical storage conditions that might affect its integrity, these must be specified. The operating conditions must at least fall within normal environmental conditions:

a) temperature (15 to 35 oC);

b) relative humidity of the air (45 to 75 %);

c) without water ingress, rain, solar radiation.

6.4. On the occasion of the type evaluation, it shall be checked that the instruction manual/manuals meet requirements, and that the information therein corresponds to the structure and operation of the electronic gambling machine. The form of the manual shall then be approved. The manufacturer shall identify the manual by codification (code, edition number, revision number); following approval, the approval date and revision number shall be mentioned. The instruction manual must be written in Romanian.

6.5. A model example of the approved manual/manuals shall be kept in the type approval file.

6.6. Every EGM marketed must be accompanied by a copy of the manual approved in accordance with the legislation in force, which should describe how to install, configure and use it. The service manual or the section referring to it may be delivered separately.

1. **Requirements regarding the construction of electronic gambling machines**

***7.1. CABINET***

7.1.1. All slot machine type gaming equipment must bear an identification plate affixed in a visible location.

7.1.2. The identification plate must include at least the following information:

a) the manufacturer;

b) the unique manufacturing serial number;

c) the year of manufacture;

d) the model of gaming device;

e) the supply current parameters.

7.1.3 The writing must be visible, legible and durable. The identification plate must be affixed securely and not be easily removable.

7.1.4. The identification plate shall be applied by the manufacturer. If the manufacturer of the gaming equipment has failed to fit the individual identification plate, or the plates fitted by the manufacturer are worn or damaged to the point that the individualisation data are no longer legible, the economic operator shall be obliged, before requesting technical checks, to ensure that new plates are applied that bear the same individualisation data provided by the manufacturer.

***7.2. Construction***

7.2.1. Slot machine type gaming equipment must be constructed to ensure that their components and the gaming interface are protected. For a given type of slot machine type gaming equipment, the manufacturer may provide a single cabinet or multiple interconnected cabinets.

7.2.2. The cabinet, including the external doors of the cabinet, as well as the boxes protecting the critical zones, as well as the hinges and locks, must be of robust construction, capable of resisting unauthorised/illegal forced access to the interior and leave evidence of any attempts at unauthorised forced access (permanent deformation, breakage of the material, etc.).

7.2.3. The cabinet and any box protecting the critical zones of an EGM presented for any kind of technical check must not show signs of forcing, deformation or have defective locks.

7.2.4. Access to the interior of the cabinet and the critical zones by authorised staff must be by means of doors with individual blocking mechanisms – locks (e.g. Yale or other lock mechanism or similar, with a key).

7.2.5. For any slot machine type gaming equipment, the critical zone access doors must be fitted with switches or sensors that indicate (trigger an alarm) when they are opened. The critical zones are those housing devices that could in any way influence the gambling process: affect the win allocation, the win percentage or the integrity of the electronic gambling machine.

7.2.6. The critical zone access doors must be designed and manufactured in such a way that they obstruct the insertion of objects that could deactivate the switches or the sensors protecting them or act on the electrical/electronic equipment that they protect.

7.2.7. Slot machine type gaming equipment must have its own system to monitor the status of all critical zone access doors. Regardless of the operational status of the EGM, whether switched on or off, this monitoring system must detect and record the status (open or closed) of the door affording access to the motherboard, and reveal any movement of a door from the firmly closed position for the box. The gaming equipment must interrupt the game and display a specific error, in the event that it is switched on without electromechanical meters or if the latter are disconnected during operation.

7.2.8. Monitoring of access to the interior of the electronic gambling machine must cover at least the following zones:

a) all external doors affording access to zones housing machine components/equipment or to critical zones;

b) the CPU box (central processing unit/motherboard);

c) any compartment in which money is deposited (coins or banknotes) or equivalent (e.g. tickets with barcodes, tokens, etc.);

d) peripheral equipment.

7.2.9. Opening any of the monitored doors must halt the game, if it is in progress, trigger at least an audible alarm, display a corresponding warning message and enter an error status that locks the machine so that it cannot be credited. When open doors are closed, slot machine type gaming equipment must leave its error status and resume operation from where it was when the alarm was triggered, with the exception of automatic roulette and apparatus that needs a procedure.

7.2.10. Slot machine type gaming equipment must be so designed that the electrical wiring and data cables are not accessible from the outside; the mains power cable must be located in a position that is not directly accessible by the public (players).

7.2.11. Gambling games played on slot machine type gaming equipment must be controlled by a central processing unit (CPU – logical unit) operating on one or more microprocessors. The central processing unit (CPU) may consist of a single printed circuit board (motherboard/gaming platform) or multiple interconnected boards, in which case the entire assembly is considered to be a ‘CPU unit’, to which all of the specific requirements apply.

7.2.12. All slot machine type gaming equipment must contain a logical zone, to protect those electronic components that have an influence on the manner of operation, generically known as the ‘CPU box’. This must be designed as a separate entity, with its own closure system, located inside the cabinet. Depending on the construction solution chosen by the manufacturer, there may be multiple logical zones (CPU boxes).

7.2.13. The CPU box/boxes must be designed in such a way that:

a) a physical seal can be applied, which must be destroyed before the box can be accessed or any modifications made in the logical zone. The sealing facilities must permit sealing stickers to be applied that are destroyed upon removal, but also (and/or) devices with a sealing wire.

b) the alarm of the general door monitoring system of the electronic gambling machine is automatically triggered when the doors of the logic zone are opened.

c) modification of the critical parameters of the electronic gambling machine must not be possible without first opening the logical zone and the CPU box, or destroying at least one protective seal.

7.2.14. The electronic components/elements of the EGM which must be protected in the logical zone/ zones (CPU box/boxes) are:

a) the logical unit – the CPU and other electronic components involved in the operation and calculations necessary to the game process (e.g. Electronics controlling the game process and the components on which the storage media holding the firmware or system programs is located);

b) the electronics of the system monitoring access to the internal critical zones of the electronic gambling machine;

c) the electronics involved in generating the random events underlying the game process and allocation of the outcome, with the exception of video lottery terminals, for which the random elements are generated by the RNG server;

d) the electronics involved in generating the symbols/images of the game, including the storage media involved (with the exception of passive display equipment);

e) electronic communications control circuits and the storage media for the EGM’s specific communications programs;

f) all memory devices affecting the operation of the gaming equipment and the game process;

7.2.15. The electromechanical meters must have their own boxes that can be sealed.

***7.3. Electronic components (printed circuit boards and memory devices)***

**7.3.1. Printed circuit boards**

7.3.1.1. All printed circuit boards (PCBs) that have an influence on the game process must have model identification elements consisting of a unique alphanumeric code, followed where applicable by the revision number. It is recommended that the identification number of the board model and the revision be visible without dismantling (for example on the visible face of the board when the CPU box door is opened, or on the EGM display in a technical menu).

7.3.1.2. Any modification of the circuit layout (cutting or addition of cables), as well as any other modifications to the initially approved plates, means codification with a new revision and re-evaluation.

7.3.1.3. The printed circuit boards may contain physical devices such as micro-switches and/or jumpers to configure certain properties. In this case, the following conditions must be met:

a) the functions and effects of all physical micro-switches and jumpers must be completely documented so that they can be evaluated during the type evaluation;

b) all physical micro-switches and/or jumpers that modify the initial configuration of settings, the win scheme, the settings relating to the value of each credit point and the win percentage must be protected inside the logical zone protection box, the CPU box.

**7.3.2. Storage media for the game program(s)**

7.3.2.1. The memories in which the executable program(s) are stored (the software) and which are necessary for the game process and its correctness, and in which the game programs are loaded when the machine is switched on must be non-volatile memory (even when not supplied with electricity). These are unalterable electronic components (or which may be modified by means of special procedures) on which are stored executable programs that are accessed by the processor(s) once they have been loaded into the working memory (RAM) and which constitute the basis of the gambling process or have an influence on the correctness of the game process, generically referred to as ‘Conventional ROM Memory’ – abbreviation: ‘MCROM’.

7.3.2.2. MCROM used in slot machine type gaming equipment may be of various types, including but not limited to: EPROM, EEPROM, Compact Flash card (CF), CFast card, SSD, USB stick, hard disk, optical disc (CDROM, etc.). The list of types of MCROM that may be used in slot machine type gaming equipment may be subject to change with technological advances.

7.3.2.3. All MCROM devices and other programmable logical elements must be clearly marked with sufficient information to identify the software stored and the revision level thereof. The respective information may also be available during the EGM start-up procedure, as well as in the diagnostic or service menus.

7.3.2.4. MCROM and other programmable logical elements with a deletion window must be equipped with protection for the deletion window. (Application of labels or a self-adhesive seal).

7.3.2.5. Being a storage device for the program, the MCROM must only contain the program files that operate the game and must be authenticated/checked on start-up and when the program files are loaded for the first time.

7.3.2.6. EGMs must have a secure mechanism in place to authenticate/check internally that the program and/or support files have not been corrupted or modified prior to use/loading. This mechanism must block the continued operation of the EGM if unforeseen data or inconsistencies are identified.

7.3.2.7. The write protection system of the program storage device must be activated.

7.3.2.8. In the event that the EGM is not intended to be used in a client-server system (in which programs may optionally be loaded from the system server), it must not be possible to rewrite or reprogram the MCROM program storage device unless the rewriting or reprogramming process means accessing and destroying a seal protecting the logical zone (CPU box).

7.3.2.9. The structure of the files stored on the MCROM must be documented in detail in order to permit the Romanian Bureau of Legal Metrology, or the conformity evaluation bodies licensed as Class II by the ONJN, to identify the critical files that will define the game program, including through the use of checksums.

7.3.2.10. In the technical documentation, the section describing the configuration of the printed circuit boards must specify the installation locations of the MCROM containing critical programs or software that affect the correct operation of the electronic gambling machines.

**7.3.3. Non-volatile RAM Memory (NVRAM)**

7.3.3.1. The memory in which the critical data are stored must be capable of reliably preserving the contents of the memory for at least thirty (30) days, with the main power supply to the EGM cut off.

7.3.3.2. EGMs must have a secure mechanism in place to check any corruption of the critical data preserved in memory locations used for important functions. This must include information relating to the game and the final result of the most recent game, of all previous games established by construction by the manufacturer, the credit available for the game and any other error state. The detection of any error that cannot be corrected must be considered a malfunction of the game.

7.3.3.3. It must only be possible to delete NVRAM memory, or access its content and be able to modify it, by accessing the logical zone in which it is hosted and destroying a security seal.

7.3.3.4. In the EGM restore settings procedure, hereafter referred to as ‘RAM CLEAR’, the game program must execute a routine that restores every bit in NVRAM to an implicit state. For games permitting partial initialisation of the NVRAM, the methodology must be very precise and check the unused portions of the NVRAM memory.

7.3.3.5. The ‘RAM CLEAR’ initialisation procedure must only be performed after unsealing a protected zone, generally the logical zone and the CPU box. By way of an exception, should the manufacturer choose a initialisation method involving a software key (e.g. a USB stick, etc.), using a port external to the CPU box, the EGM must be provided with a memory (software meter) that is not affected by the initialisation procedure (not deleted by performing a ‘RAM CLEAR’), which increases incrementally each time the procedure is performed. The meter reading shall be recorded in the checking documents. Modifying the value will cancel the validity of the technical check. Similarly, the respective memory shall preserve information regarding the date and time of the last five ‘RAM CLEAR’ events and identification of the operator that performed them.

7.3.3.6. The EGM configuration information that cannot be modified except by means of the ‘RAM CLEAR’ procedure is:

a) the win percentage;

b) the scale and any configuration of the electromechanical meters;

c) the value of the compulsory electronic meters (IN, OUT, BET, WIN, GAMES, EXTERNAL BONUS) and the electronic meters associated with the CASHLESS and TITO crediting systems;

d) the denominations, or set of values of thereof, except where the value is within the range defined by the minimum and maximum specified in the technical check when the EGM has multiple denominations;

e) the maximum and minimum value of the stake, except where the value is within the range defined by the minimum and maximum specified in the technical check when the EGM has multiple denominations;

f) the relevant communications settings that affect the transmission of data to the monitoring system;

g) the machine identifier;

h) any type of software upgrade or update.

***7.4. Crediting, payment and printing systems***

**7.4.1. Cash crediting systems – Banknotes (banknote reader).**

7.4.1.1. If the slot machine type gaming equipment is equipped with a banknote reader, the following requirements must be met:

a) the electronic banknote reader must accept only banknotes approved by the organiser and reject all others with a high level of precision; it must offer a mechanism enabling the software of the electronic gambling machine to interpret and act accordingly;

b) the banknote reader must be designed to protect against vandalism, abuse or other fraudulent activities;

c) all banknotes accepted must be deposited in a secure banknote deposit zone inside the electronic gambling machine (banknote box – stacker). Rejected or invalid banknotes must be returned to the player;

d) the banknote reader must have mechanisms enabling the software to interpret and act by emitting an alarm signal, displaying a specific error indication and deactivating the device under the following conditions:

1. banknote box (stacker) full;

2. banknote jammed in reader;

3. banknote box removed;

4. any other applicable defect not specified above.

e) banknote readers must include a mechanism that precludes the insertion of any banknote or, alternatively, rejects any banknotes inserted when the slot machine type gaming equipment is non-operational or deactivated for any reason (error and/or alarm status);

f) the connectors, cables and cabling connecting banknote readers into slot machine type gaming equipment must be housed inside the cabinet and must not be accessible from the outside;

g) the banknote reader must perform a Power On Self Test (POST) at each start-up and must deactivate automatically if this POST is unsuccessful;

h) the banknote reader must be located inside the cabinet of the electronic gambling machine so that only the zone through which the banknotes are inserted is accessible to the player;

i) the banknote reader must communicate with the CPU unit through a bidirectional communication protocol;

j) the types of banknote (or tickets, vouchers, etc.) accepted must be inscribed in the vicinity of the banknote insertion slot, for the player’s information;

k) if the slot machine type gaming equipment displays credit in monetary units, for each type of banknote accepted the credit must increase by a value corresponding to the value of the banknote;

l) if the slot machine type gaming equipment displays credit as credit points, for each type of banknote accepted, the credit must increase by a value corresponding to the value of the banknote multiplied by the declared value of the credit point;

m) if cashless crediting is permitted using tickets with barcodes or vouchers that can be recognised by the banknote reader, the same requirements apply as for banknotes;

n) should there be a power cut while a banknote/ticket is in the process of being validated, when operation is resumed either the machine must be credited with the value corresponding to the banknote if it has been accepted and deposited, or the banknote must be returned to the player in the event that it has not been validated. If, by design, there is a period of time in which the previous condition is not met, it may not exceed 1s.

7.4.1.2. Slot machine type gaming equipment incorporating a banknote reader must record the values of at least the last 10 banknotes accepted and the times of the events. In the case of tickets with barcodes, EGMs must store at least the last 10 tickets accepted, together with the following information: the type and value of the ticket (e.g.: cashable, bonus or combo, whether the value includes both a cashable value and bonus money, etc.), the date and time of its acceptance and the ticket validation number).

**7.4.2. Cash crediting systems – Coins (coin and/or token slots).**

7.4.2.1. If the slot machine type gaming equipment is equipped with a coin slot, the following requirements must be met:

a) it accepts only coins approved by the organiser;

b) it is protected against vandalism, abuse and fraudulent activity;

c) it transports accepted coins to the correct zone of the slot machine type gaming equipment (coin box – Drop Box).

7.4.2.2. Coin receiver devices must be designed in such a way as to meet the following requirements:

a) capable of accepting or rejecting a coin based on its metallic composition, mass, design/shape or other applicable security elements;

b) machine control software capable of indicating/recording with exactitude each valid coin inserted and returning all invalid coins to the player;

c) capable of protecting against known methods of tricking the device;

d) the coin receiver must be located inside the cabinet of the electronic gambling machine, so that only the zone through which the coins/tokens are inserted is accessible to the player;

e) the coin/token values accepted must be inscribed in the vicinity of the insertion slot, for the player’s information;

f) each coin or token accepted by the device must produce a credit increase corresponding to its value;

g) the coin/token receiver device must reject any coin/token inserted when the slot machine type gaming equipment is non-operational or deactivated for any reason (error and/or alarm status);

h) the coin/token receiver device must have mechanisms enabling the software to interpret and act by emitting an alarm signal, displaying a specific error indication and deactivating the device under the following conditions:

1. coin/token jammed in device;

2. impossible to return an unaccepted coin/token;

3. coin/token moving too fast or too slowly (according to the manufacturer’s specifications).

7.4.2.3. Slot machine type gaming equipment that is fitted with both coin receivers and a coin payment device (Hopper) must detect when the payment device is full and ensure by means of a dedicated system (Diverter) that coins are diverted to the coin box (Drop Box).

**7.4.3. Cashless crediting systems without player identification (reader for vouchers or tickets with barcodes).**

7.4.3.1. If cashless crediting by means of tickets with barcodes or vouchers is permitted, these must meet the following conditions, and be inscribed with:

a) a unique identification number for the issuing EGM;

b) the date and time of issue;

c) the value of the ticket/voucher;

d) the unique identification number of the ticket/voucher, if it is available;

e) the business name of the organiser and identification of the place of issue;

f) the number of days until the voucher/ticket expires;

g) the validation (verification) number. The methods used to calculate the validation number must be documented, declared and approved.

7.4.3.2. The ticket reader must meet all of the specific requirements for banknote readers. Otherwise, banknote readers can generally be configured also to accept tickets with barcodes or vouchers.

**7.4.4. Cashless crediting systems with player identification (card reader, biometric scanners, etc. integrated into the machine).**

1. **Cashless crediting systems (based on ‘cashless’ cards)**

The player’s funds on the operator’s system are accessed with the aid of a magnetic card, contactless card or smart card.

The player’s electronic account must preserve at least the following data:

1. a players identification number assigned by the server;
2. the player’s funds.
3. **Card reader**: in the case of the Cashless system, EGMs must be fitted with a card reader incorporated into the slot machine apparatus. This reads the data on the card in order to identify the player.

All monetary transactions between the EGM and the system must be secured by the player inserting their card and entering a PIN number or by another method.

All monetary transactions must be recorded on the corresponding electronic meter of the EGM.

7.4.5. Regardless of the crediting system, it must be possible to set a limit on the credit meter of the EGM so that, if the limit is reached, it refuses to accept any more coins, banknotes or cashless crediting (e.g. tickets, vouchers, tokens).

**7.5. Cash payment system**

**A) Coins (HOPPER).**

7.5.1. If slot machine type gaming equipment is fitted with a coin/token payment device, it must meet at least the following requirements:

a) it shall be possible to set a payment limit; payment requests initiated by players beyond that limit will not be paid without the intervention of a representative of the organiser (cashier, floor manager, etc.);

b) the coin container (hopper) shall be located inside the cabinet;

c) the coin containers must be designed to resist attempts to open or manipulate them from the outside and not to be affected by power cuts, electrostatic discharge or other objects.

7.5.2. Slot machine type gaming equipment must be able to detect and display messages corresponding to the following situations:

a) hopper empty;

b) hopper full;

c) hopper blocked (coin blocking exit);

d) excessive payment (e.g. one or more coins exiting over the correct payment value);

e) hopper disconnected – non-functional.

7.5.3. All coins paid from the hopper must be correctly accounted for by the electronic gambling machine, including those paid as supplementary coins during a hopper malfunction.

**B) Banknote distributor (DISPENSER).**

7.5.4. If slot machine type gaming equipment is fitted with a banknote payment device, it must meet at least the following requirements:

a) it shall be possible to set a payment limit; payment requests initiated by players beyond that limit will not be paid without the intervention of a representative of the organiser (cashier, floor manager, etc.);

b) the banknote container (DISPENSER) shall be located inside the cabinet;

c) the banknote container must be designed to resist attempts to open or manipulate it from the outside and not to be affected by power cuts, electrostatic discharge or other objects.

7.5.5. Slot machine type gaming equipment must be able to detect and display messages corresponding to the following situations:

1. dispenser empty;
2. dispenser full: this status should result only in deactivation of the distributor, without an error message being displayed;
3. dispenser jammed;
4. excessive payment (e.g. one or more banknotes exiting over the correct payment value);
5. dispenser disconnected – non-functional.

7.5.6. All banknotes paid from the dispenser must be correctly accounted for by the electronic gambling machine, including those paid as supplements during a hopper malfunction.

7.5.7. In the event that the dispenser is full, banknotes may be diverted to the banknote box, if the dispenser and the banknote reader support this function.

**7.6. Printers**

If slot machine type gaming equipment is equipped with a ticket printing device, this must be located inside the cabinet and display messages corresponding to the following situations:

a) no paper;

b) printer blocked (paper jam);

c) printer disconnected;

d) software and/or hardware errors;

e) communication error;

f) after eliminating the cause that has triggered the error status, the printer must restart and finish any interrupted printing operation with or without the intervention of the operator.

EGMs must retain the following information for at least the last 10 tickets issued: the type and value of the ticket, the date and time of the printout and at least the last four digits of the validation number.

**SECTION 2**

**Additional requirements regarding immunity to electromagnetic fields and electrostatic discharges and other external influences**

1. **Additional requirements**

8.1. The operation of EGMs shall not be affected by electromagnetic interference or radio frequencies generated by equipment such as Wi-Fi antennae, mobile telephones, Bluetooth, etc.

8.2. The operation of EGMs shall not be affected by electrostatic discharges on any of their outside surfaces produced by the static electricity of the human body.

8.3. In the case of an electrostatic discharge above the level produced by the static electricity of the human body, EGMs may suffer temporary loss of operation or enter into an alarm/error state; upon restarting, they must be functional and not produce memory alterations, data losses, changes to the credit or to the electromechanical meters or software.

8.4. Normal operation or integrity of the equipment and information stored inside the cabinet shall not be influenced by the application of various liquids to the outside of the EGM.

1. **Software requirements**

**9.1. Checking the game program**

*9.1.1. Identification of the critical files for the game program*

1) Among the files stored on MCROM that are declared by the manufacturer to be the game program, and which are documented in detail in the technical documentation submitted to obtain type approval, those that are critical to the game process shall be identified. The following must be included: all files and/or the corresponding code involved in: initiating and running the game sequences, all configuration menus, the win scheme, the random number generator(s) if there is one, allocating outcomes, managing prizes, displaying game outcomes, the function monitoring and self-diagnosis system, communications, etc. that the evaluator feels might have an influence on the correct operation of the game.

2) The files established to be critical shall be characterised by appropriate checksums.

*9.1.2. Self-diagnosis*

(1) Upon start-up and before being available to run any game or configuration process, all EGMs must perform a check of the integrity of the information stored in the critical memories holding executable programs (in MCROM and NVRAM); confidence must be ensured, throughout the entire software transfer chain from the initial memory to the working memory of the processor, that the information transferred remains unchanged.

(2) These checks shall be performed in accordance with the following conditions:

a. For EPROM type memory, a checking mechanism based on a type CRC 16 (or higher) checksum.

b. For other types of memory a checking mechanism must be used that employs checksums based on the function ‘hash’ (dispersion/summary function) and produces messages of at least 128 bits.

c. If the memory can be altered, there must be mechanisms in place to:

i. check the integrity of the information stored and block the game process in the event that any structural or data changes are detected.

ii. keep records of the last 10 events in which data changes are detected in the critical memories. Every record must make it possible to identify the moment in time that the event took place, the affected memory, the nature of the event and any other relevant information.

Should these checks reveal changes to the files or if checking is blocked, the gaming equipment must:

1. lock the machine’s operation;
2. display a specific error message;
3. emit an alarm tone and/or a light signal;
4. block any crediting or payment operations;
5. record the event in the machine’s event log (the moment in time when the event was identified);
6. transmit the information also to the monitoring system;
7. not permit the machine to exit its alarm state without the intervention of an operator and without remedying the defect.

(3) the self-diagnosis method must ensure that 99.99 % of error cases are detected.

(4) during evaluation of the model presented for type approval, the software self-diagnosis mechanism and these conditions shall be checked.

*9.1.3. Independent software check (the game program stored on MCROM)*

1) Slot machine type gaming equipment must be constructed in such a way that it is possible to perform an independent integrity check of the memories containing programs or the parts thereof that constitute the basis of the gambling process or have an influence on its correct operation.

2) The integrity checks must use applications that will calculate the checksums characterising the critical files. These applications may be integrated into the machine’s software or may be run on dedicated or generic external devices (personal computers, card readers, etc.).

3) The memory device may be accessed by removing it (mounting the memory in sockets), by running applications that are independent but integrated into the machine software in a specific menu or by using a port and/or an independent interface device.

4) If it is possible to access the memory via a port and/or interface, these must be accessible only from within the CPU box or another sealed zone, so that it is necessary to break at least one seal to gain access.

5) EGMs must be constructed in such a way that critical memory integrity checks can be performed on-site at the premises of operation.

6) In order to ensure a sufficiently high level of trust regarding the integrity of the critical programs stored in the EGM (MCROM) memories, these must be characterised by checksums based on ‘hash’ functions with an output message of at least 128 bits. The independent check mechanism must use calculations in accordance with public standards.

7) The method used to check the integrity of critical programs/files must be evaluated during type approval testing, as well as the compliance with the conditions. The type approval certificate must record the checksums of the critical programs/files, the types of these programs/files, the memory devices on which they are stored, the independent checking procedure, the applications and the necessary hardware. If specific applications are necessary, these shall be offered free of charge; if specific equipment is necessary (hardware – electronic equipment, cables, etc.) this shall be made available by the type approval applicant on the request of the Romanian Bureau of Legal Metrology or the conformity evaluation bodies.

1. **Win table**

10.1. The EGM must function according to the win table declared by the manufacturer in its documentation, for each program/subprogram.

10.2. During type approval testing, all configuration options that might influence the win table for each program/subprogram must be evaluated and documented (e.g. whether there is an ‘extrabet’ option and whether or not it is active, or in the case of configurable win percentages).

10.3. The minimum and maximum stakes for each program/subprogram must correspond to the manufacturer’s documentation. The type approval documentation must record the minimum values, the smallest possible that can be configured for the minimum stake and the largest possible value that can be configured for the maximum stake. These values shall be recorded both in credits and in monetary units. In the case of EGMs that accept multiple denominations, the values in monetary units shall be declared for the smallest denomination.

10.4. The minimum and maximum stakes of EGMs declared to conform to an approved type must be within the range specified in the type approval documents. The documents issued at the initial, periodic or post-repair technical check shall record the values of the minimum and maximum stakes as they have been configured for operation. In the case of EGMs that accept multiple denominations, the smallest stake for the smallest denomination and the largest stake for the largest denomination shall be taken into account.

10.5. For each program/subprogram, the maximum win factor (the maximum stake multiplication factor) shall be determined as ‘Maximum win /Maximum stake’ in the basic game (without bonus or special games).

1. **Win percentage, values – Ratio between total winnings and total stake**

11.1. The theoretical win percentage of a game program/subprogram is the win percentage calculated based on the statistics of the random number generator and the rules (tables) for allocating wins.

11.2. The actual win percentage (achieved) of a program/subprogram is calculated at any time during operation of the EGM for a program/subprogram. This may be different from the theoretical win percentage and the limit, when the number of games tends to the infinite, must reach the value of the theoretical win percentage. The EGM manufacturer must declare the theoretical win percentage value and the minimum number of games in which the theoretical win percentage reaches this level, with a *minimum* confidence level of 95 %. The declaration shall be submitted with the documentation submitted for type approval and will provide the entity performing the statistical evaluation of the RNG, with the win allocation table and the statistical calculation in the form of Excel sheets on which it is calculated for all of the game programs/subprograms.

11.3. For EGMs using multi-game programs (with multiple subprograms), the win percentage shall be declared and calculated for each subprogram. In the documents issued at the AT and at the technical check, the percentage shall be specified for each program/subprogram (subprogram – in the case of multi-game EGMs).

11.4. Checking that operation conforms to the declarations in the previous point shall be performed by running the number of games declared by the manufacturer for which the theoretical win percentage value is reached with a confidence level of 95 %. Checking shall be performed for all of the game programs/subprograms installed on the EGM.

11.5. EGMs declared compliant with an approved type should have a win percentage of between 92 % and 95 % for the last 12 months of operation. The values obtained for this period shall be recorded in the documents issued at the periodic or post-repair technical check (only for slot machine type gaming equipment with unlimited stakes and winnings).

11.6. The theoretical win percentages of an EGM must not be modified without performing a hardware, software or RAM reset, modifying the configuration of the EGM and breaking a security seal.

11.7. A subprogram/EGM must have at least one configuration setting that offers a minimum theoretical statistical expectation, such that the minimum theoretical win percentage of the game is greater than or equal to the value established under the legislation in force throughout the whole duration of the game process (where applicable – e.g. AWP).

11.8. In a progressive game, whenever a progressive payment is offered as part of the EGM payment, the basic sum (the smallest possible starting value) and the guaranteed contribution/ increment must be included in the theoretical win percentage in order to meet the minimum theoretical win percentage requirements.

11.9. The ‘Double’ and ‘Gamble’ options must have a theoretical return to the player of 100 % (theoretical win percentage for this type = 100 %).

11.10. If the EGM is fitted with its own jackpot system, the probability of winning any published jackpot must not be smaller than 1/100 000 000 (a rate of at least one in 100 million games).

1. **Requirements for the software type random number generator**

(Applicable if the gaming equipment functions using RNG type software – based on mathematical functions)

12.1. All winning or losing combinations of a game must be available for random selection before the start of each game.

12.2. The game software must not determine the game outcome (basic game or bonus game) until the player has configured it according to the available options and given the command to start the game.

12.3. Using an RNG must result in the selection of gaming symbols or results of the game which have been demonstrated, by applying recognised statistical tests, to be:

a) statistically independent;

b) uniformly distributed throughout the whole range of possible values;

c) unpredictable;

12.4. Between two game cycles, the RNG must continuously produce random numbers (pseudo-random).

12.5. The generation method using initialisation units (seeds) must ensure that:

a) the same string of random numbers is never used in multiple EGMs at the same time;

b) the outcome of the ‘next’ game is not predictable;

c) initialisation/reinitialisation must be determined randomly and must not be under the control of the operator;

d) the first initialisation must be performed using one or more sources of randomly chosen initialisation elements (seeds).

12.6. The range of values produced by the RNG must offer sufficient precision and flexibility to establish the probabilities of the events arising.

12.7. If a random number ranked lower than that provided by the RNG is needed for a given purpose in the context of the EGM, the redimensioning/scaling method (i.e. converting the number to a lower order), must be designed in such a way that all of the numbers in the lower order interval are equally probable (maintaining the random aspect).

12.8. If a given randomly selected number falls outside the distribution interval equal to the redimensioned values, it is permitted to discard this random number and select the next number.

1. **Interrupting and resuming the program**

13.1. Following interruption of the program (for example a power supply interruption), the software must be able to return to the state that it was in immediately prior to the interruption.

13.2. When the program is interrupted at least the following procedures must be applied:

a) the coin container (hopper) or other cash payment systems must be stopped;

b) the integrity of the critical data (the critical data in the NVRAM memory) must not be compromised by the interruption procedures;

c) if the EGM is fitted with a shutdown routine, this must be triggered and execute completely;

d) if an EGM is shut down while it is in an error state, the error message must be displayed and the EGM must remain locked upon restarting. This applies only if shutting down/restarting the machine and/or opening/closing the main doors is not part of the error reset procedure; the EGM shall check the error state and detect whether or not the error has been eliminated.

13.3. The following procedures must be performed when the program relaunches:

a) any communications with an external device must not start until the program relaunch routine, including the self-tests, has been successfully finalised;

b) the self-test procedure must itself be tested in order to detect any errors that may have appeared, using a sufficiently robust and efficient mechanism. These characteristics shall be checked during the type approval evaluation;

c) the integrity of the critical memory must be checked;

d) the operation interruption process, if applicable, must be tested for correct finalisation and an appropriate message must be displayed if incorrect finalisation is detected;

e) the software must be capable of detecting any unauthorised change in the EGM’s game program since the last date on which it was activated or interrupted. If any unauthorised change is identified, the EGM must lock and display an appropriate error message until the machine has returned to normal operation by an authorised person;

13.4. Following an accidental or intentional interruption to the power supply, the values recorded on the electromechanical meters must be unchanged upon restarting. Similarly, all of the critical values stores in non-volatile NVRAM memory must remain unchanged.

**SECTION 3**

**Conditions, requirements, error management and locked states of the EGM**

1. **Operation history and the game process**

14.1. For information on the game history held by the EGM, it must be possible to show the player the outcomes of the previous game(s) (including the game eliminating residual credit) as the player initially sees it/them. The way in which the information is provided must enable observers to clearly identify all game sequences and their outcome(s).

14.2. It must be possible to obtain the following information from the game history displayed:

a) the total number of credits at the start of the analysed game;

b) the total number of credits at the end of the analysed game;

c) the total number of credits bet (total stake);

d) the betting method (credits bet in relation to the number of lines or the winning method/variant);

e) the active lines in each game;

f) the selected denomination;

g) the selected multiplier;

h) the total number of credits won associated with the analysed game or the value in RON for the progressive prizes;

i) the outcome of the bonus games, of the doubling or ‘Gamble’ games, if applicable.

14.3. It must be possible to retrieve game history information for the number of games defined by each individual manufacturer, but for no fewer than 10 different games, regardless of whether they are basic or bonus, by inserting a key, an authorised access card, or another secure method.

1. **Bonus and extended game characteristics**

15.1. A bonus game or extended game function offered by an EGM that requires the player to select options within a reasonable finite period of time, must offer a clear and visible message, displaying the remaining time (in seconds) in the game presentation.

15.2. A bonus game or extended game function offered by an EGM that requires action by the player within a reasonable finite period of time, must provide a distinct visual warning message for at least 120 seconds, before the EGM automatically initiates any game.

15.3. The game must not adjust the probability that a bonus is given, based on the history of prizes obtained in previous games (i.e. The games must not adapt the theoretical win percentage based on previous payments).

1. **Conditions for meters**

16.1. All EGMs must be equipped with at least two electromechanical meters with the following functions: ‘TOTAL INPUTS’ – which records the total of all sums received from the players and ‘TOTAL OUTPUTS’ – which records the total sum of payments paid by the players.

16.2. The electromechanical meters must meet the following construction conditions:

a) at least six digits;

b) cannot be reset;

c) mounted in such a way that they cannot be ‘wound back’.

16.3. The electromechanical meters must be labelled so that the following information is clear:

a) the function;

b) the multiplication factor;

c) the metered units (credits, RON, etc.).

16.4. The EGM must be constructed so that the electromechanical meters record variations in the assigned units accurately.

16.5. The EGM must be constructed to ensure that seals can be applied to prevent disassembly.

16.6. All EGMs must be fitted with software meters (e.g.: electronic storage meters) with at least 10 (ten) digits, which are capable of recording and displaying the information required in this document.

16.7. All software meters must be updated upon the appearance of the particular event that the meter is monitoring. All meters must be of cumulative type. The meters monitoring total inputs and outputs must be of the ‘add to’ type, i.e. the current value is taken from the memory, the arithmetic addition operation is performed, monitoring the variation in the units, and the result is then stored in the memory. In addition, it must be checked that the update has been performed successfully and that each logical copy has been correctly updated.

16.8. All EGMs must provide the necessary means to display the information stored in NVRAM memory on the request of the authorised persons, namely:

a) the last ‘on’ event;

b) the last closure of the main door;

c) the last start-up (the last RAM clear procedure).

16.9. All software meters must explicitly display the function or a key to indicate what information is being accumulated.

16.10. The meters listed in this section must accumulate the necessary information in local money. EGMs configured for multiple denominations must display the necessary information in local money.

16.11. Similarly, EGMs must have meters in units equal to the nominal value of the current game denomination, which continuously display the following information to the player regarding the current game or monetary transaction, except in the event of an operational malfunction or locked operation:

a) the money or credit bet (the stake);

b) the money or credit won, if applicable;

c) the money or credit paid out by the hopper for a credit withdrawal or for a direct payment from a winning outcome;

d) the credits available for betting, if applicable;

16.12. Received credits must be immediately deducted from the player’s credit account.

16.13. The end of the game shall be defined as the moment at which all of the electronic meters corresponding to the game in question have been updated. The credit meter must be updated before the end of the game, provided that:

a) the critical memory is updated when the credit meter is updated;

b) only the credits held on a win meter should be betted on a ‘Double’ or ‘Gamble’ (risk) type game (it is not possible to bet all of the credit transferred to the credit meter for ‘Double’ and ‘Gamble’ type games).

1. **Communication requirements**

17.1. All communication ports must be clearly labelled and located within the frame of the EGM to prevent unauthorised access to the ports or cable connectors.

17.2. The communication protocol must similarly ensure that erroneous data or signals will not negatively affect the operation of the EGM.

17.3. All external data communications must be based on the protocol and/or include an error detection and correction scheme to ensure their robustness and adequacy for use.

17.4. The external data communication protocol must similarly ensure that erroneous data or signals will not negatively affect the operation of the EGM through the use of the transmission error verification mechanism. The transmission error verification mechanism used must employ at least a 16-bit Cyclic Redundancy Check (CRC) type process.

17.5. The encryption keys for communications, after the initialisation phase, must not be codified hardware and must be changed periodically.

17.6. The external data communication protocols must be of request/ response type, implemented by the manufacturer, and offer the minimum data necessary in order to generate the reports provided for in the legislation in force, as well as the meters for inputs (IN), outputs (OUT), bets (BET), wins (WIN) and number of games (GAMES).

17.7 EGMs shall not accept any kind of wireless connection such as Wi-Fi, Bluetooth, including RFID or NFC protocols through which changes can be made to the game programs or initial parameters of the apparatus.

1. **Display and information requirements**

18.1. All of the game instructions must correspond to the way in which the active game runs and must be easily interpreted, unambiguous and sufficient to understand all of the rules of the game.

18.2. There must be sufficient game instructions to enable the player to determine that the correct prizes have been awarded.

18.3. The win table applicable to the game must contain sufficient information to enable a player to establish the prizes and must be clearly visible, or the means of displaying this information must be immediately accessible to the player at any moment that the game is available to be played.

18.4. If the game instructions are only on the video screen, they must be accessible and visible without the need to insert or place credits. This requirement does not apply during the game, except in cases where specific instructions are requested in order to pass to the next stage of the game.

18.5. Phonetically presented instructions must also be provided as visual instructions.

18.6. The game instructions must be presented in a font colour that contrasts with the background colour in order to ensure that all of the instructions are easy to read.

18.7. The message ‘*Defecţiunile anulează orice plată şi joc*’ (‘Malfunction Voids All Pays and Plays’) must be clearly and permanently displayed on every EGM, with the exception of the audit and test modes.

18.8. EGMs must clearly display the values accepted, close to the coin/token introduction point or banknote reader.

18.9. The active denomination(s) must be declared by means of a clear display on the screen or front panel of the EGM. The relationship between the monetary unit and the credit granted must be displayed in the form ‘Y RON = Z Credits’.

1. **Error management and locked states of the EGM**

19.1. EGMs must detect and display the following conditions during waiting times or during the game. These error or status messages must be automatically eliminated by the EGM when a new game sequence is finalised and shall be accordingly communicated to a management system where applicable:

a) power supply reset;

b) door open (including banknote reader);

c) door has just been closed;

d) incorrect coin or token if the coin/token has not been returned to the player.

19.2. EGMs must be capable of detecting and displaying the following errors/conditions which must deactivate the game and must be eliminated only by an operator and similarly communicated to a monitoring system:

a) coin/token input/crediting error (e.g. jammed coin, etc.);

b) coin/token payment error (e.g. jammed coin, extra coin paid, etc.);

c) hopper empty or jammed (coin container has failed to pay out);

d) hopper jammed open;

e) jammed banknote;

f) battery back-up for discharged RAM or external battery or power supply voltage low;

g) fatal RAM error (RAM memory defective or corrupt);

h) printing error, if the EGM does not have other means of making payments, a replacement voucher must be printed once the error condition has been eliminated, with or without operator intervention;

i) paper jam in printing mechanism. Paper jams must be monitored at all times during the printing process;

j) no paper in printer;

k) program error (defective program storage media);

l) rotation error in any type of rotor (including the mechanical/electromechanical rollers). The number of specific bobbins must be identified as part of the error condition; bobbins controlled by microprocessors, where applicable, must be monitored to detect malfunctions such as a bobbin that has jammed or is not rotating freely, or any attempt to manipulate their final rest position;

m) insufficient game program memory;

n) door open.

19.3. A description of the error or locking codes and their meanings must be applied inside the EGM, except where the codes displayed are explicit.

**CHAPTER III**

**FINAL AND TRANSITIONAL PROVISIONS**

**20.** The entities listed in Part III(2) of the preamble, in the context of the scope of the regulation are required to implement the provisions included in the minimum technical conditions for checks on gambling equipment. Annually, or whenever necessary, the National Office for Gambling shall examine the state of measures to fulfil the objectives and all of the provisions specified in this document.

**21.** This Order will be supplemented subsequently by the minimum technical conditions for checks on gaming equipment for all of the other traditional gaming equipment provided for under the applicable legislation.

**22.** The conformity evaluation bodies, which shall hold a valid Class II licence issued by the National Office for Gambling, must obtain accreditation from the national accreditation body for the specific activity undertaken within 12 months of the date of issue of the accreditation scheme by the national accreditation body defined in Chapter I, Section 1, Part IV.

**23.** In order for slot machine type gaming equipment to be authorised, the conformity evaluation bodies licensed by the ONJN shall issue initial, periodic, or post-repair technical check certificates based on the existing procedures predating the issue of the order, for a maximum period of 24 months from the publication of this order.