



REPUBLIC OF SLOVENIA

**MINISTRY OF HIGHER EDUCATION,
SCIENCE AND TECHNOLOGY**

Pursuant to the third paragraph of Article 7 of the Metrology Act (Uradni list RS (Official Gazette of the Republic of Slovenia), no 26/05 – consolidated text) the Minister for Higher Education, Science and Technology hereby issues the following

**RULES
on national standards**

I. GENERAL PROVISIONS

Article 1

These Rules shall determine:

- starting points for distributed system of national standards;
- ensuring measuring traceability of national standards;
- criteria for recognition of a legal entity to realise, conserve and maintain the measurement standard (hereinafter: national standard holder), recognised by the Metrology Institute of the Republic of Slovenia (hereinafter: MIRS) as the national standard;
- procedure of recognition of the national standard holder;
- activities and responsibilities of national standard holders;
- co financing of the activities of national standard holders;
- monitoring of eligibility, performance and fulfilment of obligations by national standard holders.

Article 2

(1) For the purpose of these Rules the following terms shall have the following meanings:

- **“the field of recognition”** relating to physical quantities shall mean individual base units SI - international system of units, while in connection with the amount of substance it shall mean the field of reference measurements of certain types of samples, including the definition of measured parameters;
- **“reference value”** shall mean the value provided by the laboratory in accordance with a known and clearly defined measurement procedure, assuring traceability of such value to the base unit SI - international system of units;
- **“CRM”** shall mean reference material, accompanied by a certificate, one or more of whose property values are certified by a procedure which establishes traceability to an accurate realisation of the unit in which the property values are expressed, and for which each certified value is accompanied by an uncertainty at a stated level of confidence;

- **“MRA”** shall mean the mutual recognition agreement of national measurement standards and of calibration and measurement certificates issued by national metrology institutes; it has been drawn up by the International Bureau of Weights and Measures (hereinafter: BIPM) under the authority given to it in the Metre Convention;
- **“CMC”** shall mean internationally recognised calibration measurement capabilities under the MRA, kept in the BIPM's database;
- **“international inter-laboratory comparison”** shall mean the comparison, by which a laboratory compares its measurement capabilities in a certain area and for a certain quantity with the capabilities of other laboratories at the international level, i.e. inter-laboratory comparisons within BIPM and inter-laboratory comparisons within European regional metrology organisation (hereinafter: EURAMET) or even inter-laboratory comparisons at a regional level if they include at least one foreign metrology institute, a full member of EURAMET or another regional metrology organisation;
- **“primary standard”** shall mean a standard that is designated or widely acknowledged as having the highest metrological qualities and whose value is accepted without reference to other standards of the same quantity;
- **“uncertainty of measurement”** shall mean a parameter, associated with the result of a measurement that characterises the dispersion of the values that could reasonably be attributed to the measurand.

(2) Other terms used in these Rules shall have the meaning as laid down in the Metrology Act (Uradni list RS, 26/05 - consolidated text).

II. STARTING POINTS FOR DISTRIBUTED SYSTEM OF NATIONAL STANDARDS

Article 3

(1) In Slovenia the system of national standards shall be based on priority establishment of national standards for the base international system units SI (hereinafter: base units SI) in order to ensure traceability of as wide a range of calibrations and measurements as possible.

(2) National standards shall be established for the fields of selected base units SI, for which, an adequate necessity and interest have been shown in accordance with the national priorities laid down in the development strategy of metrology system in the Republic of Slovenia (hereinafter: the national strategy).

(3) National standards referred to in the preceding paragraph shall be established at least at the level of uncertainty of measurement, which provides for the functioning of metrology system in accordance with national needs and priorities.

(4) A standard traceable to the system of units SI may be acknowledged as national standard. Traceability of the value of the national standard can be ensured:

- by regular calibration of standard at the relevant international level;
- by the result of key or supplement international inter-laboratory comparisons in the case of primary standard realisation;

– by documented use of CRM, adequately used for assuring reference value or by use of adequate reference method.

(5) Only one national standard holder may be recognised in one field called for in the tender.

(6) National standard holder shall be fully responsible for the results of calibrations and reference measurements carried out by him.

Article 4

(1) MIRS shall plan and ensure traceability of measurements to the international level and transfer of values of designated base units SI in the Republic of Slovenia independently or through other national standard holders.

(2) National standard holders shall have the following responsibilities:

1. periodic calibrations of national standard with other international higher level standards or maintaining realisation of primary standards;
2. establishment of reference value;
3. participation in adequate international inter-laboratory comparisons of national standard;
4. development and maintenance of national standard;
5. participation in technical committees of international metrology organizations.

III. CRITERIA FOR RECOGNITION OF NATIONAL STANDARD HOLDER

Article 5

(1) A legal entity, by which the national standard has been realised, kept and maintained, may be recognised as the national standard holder if in the field of recognition:

1. it had been engaged in metrological activities for at least three years prior to its applying for recognition as a national standard holder and if it employs sufficient number of competent staff;

2. at least three years prior to its applying for recognition as a national standard holder, it had been accredited in accordance with the standards containing general criteria for qualifications of testing and calibration laboratories with the accreditation body which is a signatory to the multilateral agreement on mutual acceptance of accreditation certificates, or if its quality system had been certified by EURAMET's Technical Committee for quality;

3. it operates with accredited measurement capacities or CMC;

4. it ensures traceability to lower levels;

5. it has exclusive use of and permanent control over the proposed measurement standard and other required infrastructure;

6. has laid down its development strategy of metrology activity, which is in line with the national strategy;

7. it is registered as a research organisation and meets qualification criteria for carrying out applied research projects;

8. cooperates with research institutions abroad;

9. issues within the scope of its accredited metrological activity only accredited reports on the performed measurements.

(2) The legal entity shall provide the following evidence relating to recognition and proving that it meets the criteria from the preceding paragraph:

1. With reference to point 1 from the preceding paragraph – description of activity and consolidated bibliography of the legal entity, projects, programmes and participation in national expert groups in the fields for which it applies, along with the biography of key researchers to participate in research – for the period of the past five years – and a statement on two full-time employees with at least university education and minimum five-year experience in the field of metrology;

2. With reference to point 2 from the preceding paragraph – a copy of accreditation certificate issued at least three years ago;

3. With reference to point 3 from the preceding paragraph – a list of accredited measurement capabilities or CMC stating the range of measurement and corresponding measurement uncertainties;

4. With reference to point 4 from the preceding paragraph – a report on the number of accredited reports or reports bearing the BIPM logo on calibrations or reference measurements carried out in the past five years. If reference measurements were carried out for the purposes of national inter-laboratory comparisons, a list of such comparisons shall be attached and the number of laboratories involved. If the reference measurements were related to reference materials, the data on reference materials produced and their quantity shall be stated;

5. With reference to point 5 from the preceding paragraph – statement to the effect that the entity has exclusive use of the measurement standard and other required infrastructure and permanent control over the measurement standard;

6. With reference to point 6 from the preceding paragraph – a copy of the legal entity's development strategy;

7. With reference to point 7 from the preceding paragraph – evidence of meeting the criteria for the head of applied research project and of the project team, as laid down in the regulation governing indicators and criteria for scientific and professional efficiency and the regulation covering co-financing of basic, applied and postdoctoral research projects;

8. With reference to point 8 from the preceding paragraph – report on joint projects, joint articles, expert exchange for a period longer than five days, lectures given at the institutions abroad or participation in the international inter-laboratory comparisons.

9. With reference to point 9 from the preceding paragraph – a statement to the effect that within the scope of its accredited metrological activity it only issues accredited reports on measurements performed.

(3) Accreditation certificates and a list of accredited measurement capacities issued by Slovenian Accreditation shall be obtained by MIRS ex officio.

IV. PROCEDURE FOR RECOGNITION OF NATIONAL STANDARD HOLDER

Article 6

(1) By the public tender published on the internet and in the Uradni list RS MIRS shall invite the interested legal entities to apply for the recognition as national standard holders for the fields of recognition called for in the tender. In its tender MIRS shall specify the fields, for which recognitions are called for in accordance with the adopted national strategy.

(2) A public tender referred to in the preceding paragraph shall comprise in particular:

- name and registered office of MIRS;
- subject of public tender along with the instructions for drawing up of applications;
- criteria to be met by the applicants;
- criteria for selection of successful applicants, and
- the deadline for informing applicants of the selection.

(3) In the procedure of recognition of a legal entity as the national standard holder MIRS shall consider the applications containing the data and evidence required in the tender and received within the deadline stipulated in the tender.

Article 7

(1) The national standard holder shall be selected on the basis of the following criteria:

- scientific excellence;
- international cooperation, and
- national needs.

(2) Director of MIRS (hereinafter: director) shall appoint an expert committee consisting of five members (hereinafter: recognition committee) to perform the assessment procedure of legal entities to the effect whether they meet the criteria for recognition as national standard holders. Four members of the recognition committee shall be employees of MIRS, while one member shall be the member of the Metrology Board and shall not be employed with the legal entity applying for recognition.

(3) In its proposal to the director in respect of recognition of the national standard holder for a specific area, the Recognition committee shall propose the legal entity which has, during the last five years preceding the public tender, obtained the greatest number of points in accordance with the criteria laid down in Annex 1, which makes an integral part of these Rules.

(4) To be recognised as the national standard holder the legal entity shall collect the minimum number of points in respect of each criterion, as follows:

- scientific excellence – minimum eight points;
- international cooperation – minimum four points, and
- national needs – minimum ten points.

Article 8

(1) If one or more legal entities obtain the same total number of points for the same field of recognition and if they fulfil minimum requirements of individual criteria referred to in paragraph (4) of the preceding article, the legal entity with greater number of points obtained under the scientific excellence criterion shall be recognised as the national standard holder. If two or more legal entities have obtained the same number of points under the above criterion, the legal entity with greater number of points under the criterion in respect of international cooperation shall be recognised as national standard holder. If two or more legal entities have obtained the same number of points under the above criterion, the legal entity with greater number of points under the criterion in respect of national needs shall be recognised as national standard holder.

(2) If due to equal number of points obtained by two or more legal entities in accordance with the preceding paragraph the selection should not be possible, the recognition committee shall invite respective legal entities to submit additional documents on their activity and qualification on the basis of which the committee shall propose to the director the legal entity to be recognised as the national standard holder.

Article 9

(1) With its decision on recognition of the standard as the national standard MIRS shall recognise a legal entity as the national standard holder for the field called for in the tender for a six year period. In the decision essential measurement equipment shall be stated as well as the method of ensuring measurement traceability, representing the national standard for the selected base quantity, range of the quantity and measurement uncertainty, to which the recognition applies.

(2) MIRS shall recommend the legal entity recognised as national standard holder to be appointed as designated institute by BIPM in his respective field and the legal entity shall be responsible for preparation and entry of CMC into the BIPM database. In all its presentations and activities related to the recognition such legal entity shall refer to MIRS.

V. ACTIVITIES AND RESPONSIBILITIES OF THE NATIONAL STANDARD HOLDER

Article 10

(1) For the period of the validity of the decision on recognition of the standard as national standard MIRS shall make an agreement with the national standard holder in which performance of tasks referred to in paragraph (2) of Article 4 of these Rules and other mutual rights and obligations shall be laid down more in detail and in particular, that the national standard holder is obliged:

- to keep the documents on activities which are the subject of the recognition and to allow the representatives of MIRS to review the documents at any time;
- to submit to MIRS information in respect of measurements required to be carried out in the Republic of Slovenia in the field of recognition;
- to follow-up the metrology requirements in Slovenia as well as global trends in the field of selected base quantity and adapt to them in cooperation with MIRS;
- to satisfy the conditions and see to entry of CMC into BIPM database;
- to cooperate with MIRS in preparation and implementation of national strategy;
- to participate in MIRS expert committees;
- to have an insurance contract to cover insurance of national standard and other equipment necessary for assuring measurement traceability for the case of damage or injury at work or during transport.

(2) Every year MIRS shall conclude with the national standard holder an annex to the contract laying down the annual scope of co-financing the tasks of the national standard holder (hereinafter: annual annex to the contract).

VI. COFINANCING OF ACTIVITIES OF THE NATIONAL STANDARD HOLDER

Article 11

MIRS may co-finance the following tasks of the national standard holders:

1. development work in providing traceability and maintenance of national standards;
2. research and development work with participation in international inter-laboratory comparisons for confirmation of their CMC;
3. development projects in the field of recognition of national standards;
4. participation in international Technical Committees.

Article 12

(1) Development work required to ensure traceability to the national standard at highest level shall include preparation and execution of all the procedures connected with traceability to the national standard, which shall be carried out in order to ensure traceability from the foreign institution through which traceability is ensured to the end user in the Republic of Slovenia.

(2) If national standards have been realised as primary standards and it is not necessary to ensure traceability by calibration with other international standards, then MIRS shall provide co-financing of research and development work, required for defining metrological properties of the national standards and for confirmation of these properties.

(3) MIRS shall also provide co-financing of development activities required for realisation and maintenance of national standard by ensuring permanent traceability to international level in Slovenia.

Article 13

Research and development work through participation in international inter-laboratory comparisons for confirmation of own CMC shall include preparation and execution of all measurement procedures required for participation in inter-laboratory comparison at highest metrological level.

Article 14

(1) MIRS shall approve co-financing of development projects for which the national standard holder expresses a need in the Republic of Slovenia, defines project objectives and the deadline for implementation of the project.

(2) Development project shall be carried out by the project team consisting of the project leader and performers employed with the legal entity which is the national standard holder. The national standard holder may carry out maximum two projects co-financed by MIRS, annually. Development projects shall mainly cover reduction of measurement uncertainty

and extension of measurement capabilities, the needs for which must be clearly indicated in the country and they must be in compliance with the national strategy.

Article 15

Normally, MIRS shall provide co-financing for expenses incurred by the representatives of the national standard holder when participating in the work of Technical Committees of BIPM, EURAMET, European association of Analytical Chemistry Organisations, European accreditation and other European Commission expert groups in the field of recognition related to development work of national standard holders.

Article 16

(1) For providing co-financing for the activity of the national standard holder, each year the director shall appoint from among the MIRS staff a four member expert committee (hereinafter: co-financing committee).

(2) The scope of co-financing of the national standard holder in the field of recognition shall be defined by the following formula:

$$A_i = p_i \cdot C \cdot \left(\frac{0,6}{\sum_{i=1}^n p_i} + \frac{0,4 \cdot d_i}{\sum_{i=1}^n (p_i \cdot d_i)} \right),$$

where:

n – is the total number of fields in which national standard holders are recognised;

A_i – is annual funds allocated to the i^{th} national standard holder;

C – total MIRS annual funds earmarked for co-financing of national standard holders' activities;

p_i – are factors of the fields of recognition, the value of which may range from 0.2 to 1.5;

d_i – is the coefficient related to the assessment of work of the national standard holder in the i^{th} field of recognition, as defined by the following formula:

$$d_i = \frac{D_i}{\sum_{i=1}^n D_i}$$

where D_i is the number of points obtained in scoring referred to in Article 17 of these Rules.

(3) Not later than six months before the expiration of the preceding three year period the Metrology Board shall propose to MIRS the coefficients of priorities for individual base units SI for the next three year period. Regardless of the number of the fields of recognition the coefficient of priority in the value ranging from 0.5 to 1.5 shall be specified for individual base units SI. Following the proposal by the Metrology Board the co-financing committee shall define the factors in the fields of recognition p_i . In the case of several fields of recognition for individual base unit SI the co-financing committee shall divide the coefficient of priority for such base unit SI into individual elements of the fields of recognition related to the base unit SI. The co-financing committee shall present the factors of respective fields of recognition to the director for his approval.

(4) The amount of funds to cover tasks of individual national standard holders from Article 11 of these Rules shall be laid down in the annual annex to the contract.

Article 17

(1) The work carried out by national standard holders shall be evaluated on an annual basis. Such evaluation shall make the basis for determination of the level of co-financing of the activity of the national standard holders in the field of recognition. The co-financing committee shall carry out procedure of evaluation of the work performed by individual national standard holders, draw up respective reports and present them to the director for his approval.

(2) The co-financing committee shall evaluate the work of individual national standard holders in the field of recognition in accordance with the criteria laid down in Annex 2, which is the integral part of these Rules.

VII. MONITORING OF MEETING THE REQUIREMENTS, IMPLEMENTING THE ACTIVITIES AND MEETING THE OBLIGATIONS ON THE PART OF NATIONAL STANDARD HOLDERS

Article 18

(1) MIRS shall, on the basis of reports, presented documentation and on-site reviews, monitor fulfilment of the requirements, performing of activities and meeting the obligations by the national standard holders.

(2) The national standard holder must immediately inform MIRS of any worsening of measurement uncertainty, reduction of or physical change in measurement equipment of the national standard and MIRS shall check the adequacy of the change in national standard and, if necessary, issue a new decision on recognition of the standard as national standard.

(3) Should MIRS find that the national standard holder does not meet the requirements, perform the activity or meet the obligations laid down in these Rules, it shall issue a decision on temporary withdrawal of recognition of the standard as national standard. In its decision MIRS shall state the deviations found and shall determine the deadline for their elimination, which shall not exceed twelve months. In the time of temporary withdrawal of recognition MIRS shall suspend co-financing under the annual annex to the contract.

(4) Should the national standard holder fail to meet the requirements and obligations laid down in these Rules within the stipulated time, MIRS shall invalidate its decision on recognition of the standard as the national standard and shall rescind the contract referred to in Article 10 of these Rules. It shall require of the legal entity to repay the amount of co-financing plus interest received during the last twelve months prior to the issue of the decision on temporary withdrawal of the recognition of the standard as national standard.

(5) In the case of serious violations on the part of the national standard holder in performing its activity and fulfilment of its obligations MIRS may without prior withdrawal of recognition invalidate its decision on recognition of the standard as the national standard and rescind the

contract from Article 10 of these Rules. In such case it shall also require of the legal entity to repay the amount of co-financing plus interest received in the period of twelve months prior to the issue of the decision on withdrawal of the recognition of the standard as national standard.

VIII. CONDITIONS UNDER WHICH MIRS IS OBLIGED TO REALISE, KEEP AND MAINTAIN NATIONAL STANDARDS

Article 19

For national standards realised, kept and maintained by MIRS articles 3 to 5, 10, 17 and 18 of these Rules shall apply mutatis mutandis.

IX. TRANSITIONAL AND FINAL PROVISIONS

Article 20

(1) As of the date of entry into force of these Rules the Rules on national standards (Uradni list RS, 69/02) shall cease to apply.

(2) Decisions on recognition of reference standard as the national standard, issued in accordance with the Decree on the national standards (Uradni list RS, 49/96) and the Rules on the national standards (Uradni list RS, 69/02) shall apply until 31 December 2007.

Article 21

These Rules shall enter into force on the day following their publication in Uradni list Republike Slovenije.

No 0073-3/2007
Ljubljana, 25 May 2007
EVA 2006-3211-0003

Dr Jure Zupan
Minister of Higher Education, Science and Technology

Criteria for selection of national standard holder for individual field called for in the tender

1. Scientific excellence criteria	Scoring	Maximum number of points
A. number of scientific articles	5 points for each article	30
B. number of international research projects	5 points for each project	15
C. number of national research projects	2 points for each project	10
D. number of research programmes	5 points for each programme	5

2. International cooperation criteria	Scoring	Maximum number of points
A. organisation of international inter-laboratory comparisons	5 points for each organisation	15
B. participation in international inter-laboratory comparisons	4 points for each participation	12
C. cooperation with foreign metrology institutions at highest metrological level	3 points for each project; 2 points for each exchange of experts for a period exceeding five days; 1 point for a lecture given at a foreign institution	10
D. Participation in the international Technical Committees	2 points for each membership and 2 additional points for chairing an international Technical Committee	10

3. National needs criteria	Scoring	Maximum number of points
A. Accredited capacities or CMC of the applicant	30 points for the best capacities in the field called for	30
B. The share in calibrations performed or reference values generated for the purpose of transfer of values, confirmed by accreditation or CMC	For every ten per cent share the score shall be 1 point	10
C. organisation of national inter-laboratory comparison	4 points for each organisation	12
D. Participation in national expert bodies and working groups	1 point for each membership 2 points for chairing a national expert group	5

Explanation of criteria:

1. Scientific excellence criteria

A. The number of scientific contributions shall mean Cobiss type 1.01, 1.02, 1.03 papers in the field of recognition.

B. International research projects shall be deemed to be research projects carried out within the EU framework programmes, participation in the European Metrology Research Programme and other international research projects in metrology with specified objectives and deadlines.

C. National research projects shall be deemed to be research projects for which tenders were called for by the Slovenian Research Agency and research and development projects carried out in cooperation with Slovene companies under official contracts with specified objectives and deadlines.

D. Research programmes shall be deemed to be national research programmes of the Republic of Slovenia.

2. International cooperation criteria

A. Organisation of international inter-laboratory comparisons shall be deemed to be inter-laboratory comparisons within BIPM and inter-laboratory comparisons within regional metrology organisations and possibly regional inter-laboratory comparisons provided that they include at least one foreign metrology institute, which is a full member of EURAMET or of some other regional metrology organisation.

B. For participation in international inter-laboratory comparisons same requirements shall be met as in respect of their organisation, on the understanding that regardless of the number of parameters measured in an inter-laboratory comparison, such comparison shall be considered as one.

C. Cooperation with foreign metrology institutions at highest metrological level shall be deemed to be participation in research projects carried out with foreign metrology institutes or their authorized legal entities under official contracts with specified objectives and deadlines, exchange of experts for a period longer than five days and lectures given at foreign institutions. Research projects referred to in this paragraph shall also include EURAMET projects.

D. Participation in the international Technical Committees shall be deemed to be active membership related to the work linked to recognition of the national standard holder. This particularly refers to memberships in Technical Committees of BIPM, EURAMET and European Association of Analytical Chemistry as well as in working bodies of European Accreditation and in other bodies of the European Commission.

3. National needs criteria

A. The best capacities in the field called for by the tender shall mean that part of the field called for, in which the legal entity in Slovenia provides for measuring capabilities with the smallest measuring uncertainties.

B. The share of calibrations performed or reference values generated by the applicants shall mean the number of accredited calibrations performed or reference values generated in the

field of recognition with the best accredited metrological capacities or CMC of individual applicant.

C. Organisation of national inter-laboratory comparison shall be deemed to be inter-laboratory comparison in the field of recognition.

D. Participation in national expert bodies and working groups shall be deemed to be active membership including at least one annual meeting related to activities linked to recognition of the national standard holder. It shall in particular mean membership in expert bodies and working groups of Slovene Accreditation, Slovenian Institute for Standardization and the Metrology Board.

Annex 2

Criteria for assessment of performance of individual national standard holders in the field of recognition

Performance of individual national standard holders during the past three years shall be assessed in accordance with the following criteria:

1. Scientific excellence criteria	Scoring	Maximum number of points
A. number of scientific articles	5 points for each article	30
B. number of international research projects	5 points for each project	15
C. number of national research projects	2 points for each project	10
D. number of research programmes	5 points for each programme	5

2. International cooperation criteria	Scoring	Maximum number of points
A. organisation of international inter-laboratory comparisons	5 points for each organisation	15
B. participation in international inter-laboratory comparisons	4 points for each participation	12
C. cooperation with foreign metrology institutions at highest metrological level	3 points for each project; 2 points for each exchange of experts for a period exceeding five days; 1 point for a lecture given at a foreign institution	10
D. Participation in the international Technical Committees	2 points for each membership and 2 additional points for chairing an international Technical Committee	10

3. National needs criteria	Scoring	Maximum number of points
A. organisation of national inter-laboratory comparisons	4 points for each organisation	12
B. transfer of knowledge – professional training for users	3 points for each training;	15
C. Participation in national expert bodies and working groups	1 point for each membership 2 points for chairing a national expert group	5

Performance of individual national standard holders in the previous year shall be assessed in accordance with the following criteria:

	Scoring	Maximum number of points
1. recent publication or entry of improved CMC of national standard in BIPM database.	10 points	10
2. objectives of research projects in the field of recognition referred to in Article 14 of these Rules achieved within the stipulated time	10 points	10