

**HEAD OF THE STATE NUCLEAR
POWER SAFETY INSPECTORATE**

**ORDER
ON THE APPROVAL OF THE NUCLEAR SAFETY REQUIREMENTS BSR-1.9.7-2018
“RULES OF PROCEDURE FOR RECOGNITION OF NUCLEAR FACILITIES’
DOSIMETRY SERVICES”**

30 August 2018 No 22.3-203
Vilnius

Acting in observance of paragraph 1; item 4, paragraph 3; paragraph 4, and item 1, paragraph 9 of Article 28 of the Law on Nuclear Energy of the Republic of Lithuania,

1. I a p p r o v e the Nuclear Safety Requirements BSR-1.9.7-2018 “Rules of Procedure for Recognition of Nuclear Facilities’ Dosimetry Services” (enclosed).

2. E s t a b l i s h that this order shall enter into force as of 1 September 2018.

Head

Michail Demčenko

APPROVED by
Order No 22.3-203
of the Head of the State Nuclear
Power Safety Inspectorate
of 30 August 2018

**NUCLEAR SAFETY REQUIREMENTS
BSR-1.9.7-2018**

**RULES OF PROCEDURE FOR RECOGNITION OF NUCLEAR FACILITIES
DOSIMETRY SERVICES**

**CHAPTER I
GENERAL PROVISIONS**

1. The Nuclear Safety Requirements BSR-1.9.7-2018 “Rules of Procedure for Recognition of Nuclear Facilities’ Dosimetry Services” (hereinafter – “the Rules of Procedure”) establish the procedure for recognition of dosimetry services of nuclear facilities (hereinafter – “the Dosimetry Service”).

2. The Rules of Procedure shall be mandatory for the dosimetry services of nuclear facilities.

**CHAPTER II
DEFINITIONS**

3. The definitions used herein shall carry the meanings prescribed to them in the Law on Radiation Protection of the Republic of Lithuania, Law on Nuclear Safety of the Republic of Lithuania, Law on Nuclear Energy of the Republic of Lithuania, as well as in other legislation governing radiation protection.

**CHAPTER III
DOCUMENTS TO BE SUBMITTED FOR THE RECOGNITION OF THE DOSIMETRY
SERVICE**

4. A dosimetry service seeking recognition shall submit (either at a distance, by electronic means through the Service and Product Contact Centre or by directly contacting the State Nuclear Power Safety Inspectorate (VATESI) an application on the recognition of a dosimetry service in the form specified in Annex 1 to the Rules of Procedure or a free form application in which the information specified in Annex 1 to the Rules of Procedure would be provided, and the following:

4.1. the supporting documentation substantiating the compliance with the requirements laid down in item 1, paragraph 3 of Article 28 of the Law on Nuclear Energy of the Republic of Lithuania (hereinafter – “the Law”), namely:

4.1.1. the list of workers who take the measurements of the individual doses accumulated in personal dosimeters and that of workers who take the measurements of the activity of radionuclides in human body and / or in biological samples to assess the radiation dose where the value of the dose is calculated based on the measured values as well as on the parameters and conditions that have an effect on that dose value (hereinafter – “the Assessment”). The list shall specify the forename and the surname of a worker and the measurements that will be taken out by that worker;

4.1.2. the documents proving that the workers referred to in sub-paragraph 4.1.1 of the Rules of Procedure were trained to take the measurements assigned to them not earlier than five years ago. If the document certifying the worker’s training is issued earlier than five years ago, then a document certifying that in the last five years, the worker was in qualification upgrading training

in the area of carrying out the measurements of the same type as those assigned to him/her must be provided in addition;

4.2. the supporting documentation substantiating the compliance with the requirements laid down in item 2, paragraph 3 of Article 28 of the Law, namely:

4.2.1. the list of workers who perform the Assessment. The list shall specify the forename and the surname of a worker and the Assessment that will be performed by such worker. A single list of the workers referred to herein and in sub-paragraph 4.1.1 of the Rules of Procedure may be provided having specified the workers who will take measurements and those who will perform the Assessment;

4.2.2. the documents certifying that the education of the workers referred to in sub-paragraph 4.1.1 of the Rules of Procedure corresponds to that specified in item 2, paragraph 3 of Article 28 of the Law;

4.3. the supporting documentation substantiating the compliance with the requirements laid down in item 3, paragraph 3 of Article 28 of the Law, namely:

4.3.1. a copy of a valid accreditation certificate attesting the compliance to the standard LST EN ISO / IEC 17025:2018 "General requirements for the competence of testing and calibration laboratories" or any equivalent standard and a copy of annex to such certificate where the accreditation area is referred to when the measurements of the individual doses of external exposure accumulated in personal dosimeters are carried out. When an accreditation certificate is issued by the National Accreditation Bureau, only supporting information can be provided;

4.3.2. the quality management system supporting documentation substantiating the compliance with the requirements laid down in Chapter VI of the Rules of Procedure for the assessment of the individual doses of internal exposure by taking measurements with the whole body counter or by measuring the activity in biological samples. When the measurement required for the assessment of the individual doses of internal exposure is accredited in accordance with the standard referred to in paragraph 4.3.1 of the Rules of Procedure and the supporting copies of the accreditation certificate and its annex are provided, then the quality management system documentation describing the assessment of the individual doses of internal exposure referred to in sub-paragraph 4.3.3 of the Rules of Procedure shall be provided;

4.3.3. the quality management system supporting documentation substantiating the compliance with the requirements of sub-paragraphs 20.2, 20.3, 20.5, and 20.12 of the Rules of Procedure when the assessment of the equivalent and / or effective dose of the external exposure only and / or the assessment of the committed effective dose of internal exposure only is carried out;

4.4. the supporting documentation substantiating the compliance with the requirements laid down in item 4, paragraph 3 of Article 28 of the Law, namely:

4.4.1. the documents containing the results of the evaluation of measurement uncertainty carried out in accordance with the requirements laid down in Chapter VII of the Rules of Procedure and the established procedure of the assessment of measurement uncertainty;

4.4.2. a document issued by the organisation arranging the comparative measurements of doses accumulated in individual dosimeters, giving the results of the comparative measurements, or documents providing information on the dose equivalents with which the metrology body has irradiated the dosimeters concerned and the results of the measurements of these dosimeters by the dosimetry service. The measurements referred to in this subparagraph shall be carried out no earlier than one year before the date of submission of the request referred to in paragraph 4 of the Description;

4.4.3. documents justifying compliance with the requirements of Section Four of Chapter VII of the Description, if measurements of radionuclides with a whole body counter or measurements of activity in biological samples are taken to assess the internal irradiation dose.

CHAPTER IV

REQUIREMENTS FOR THE PROVISION OF DOSIMETERS FOR IRRADIATION

5. To assess the accuracy of the measuring equipment and the measurand, at least two individual dosimeters shall be provided for irradiation for each instrument and for each measurand, of which at least one individual dosimeter shall be irradiated with a source of radiocobalt (^{60}Co), at least one with a source of radiocaesium (^{137}Cs), and at least one of these individual dosimeters shall be irradiated with any low dose of ionising radiation, but not less than 1 mSv for the Hp(3) and Hp(10) dose equivalents, and not less than 50 mSv for the Hp(0,07) dose equivalent.

6. Prior to submitting the dosimeters to the metrological service, VATESI must be allowed to select randomly the personal dosimeters for irradiation to ensure as realistic data as possible on the accuracy of personal dosimeters and dose measuring equipment (hereinafter – “the measuring system”).

7. At least two personal dosimeters intended for the determination of each dose equivalent shall be provided to the metrological service for the evaluation of the values of background doses received during transportation. The metrological service must be informed on which dosimeters are intended to be used to evaluate the values of background doses received during transportation.

8. The data on the irradiation of personal dosimeters shall be provided to VATESI only. The provision of the data on the irradiation of personal dosimeters to the dosimetry service or otherwise making it possible for such service to have access to the aforementioned data is not permitted.

9. When the dosimetry service receives the personal dosimeters from the metrological service, VATESI must be allowed to participate in the opening process of an envelope or other package in which the dosimeters in question have been shipped, as well as in the process of the measurement of the doses accumulated in thereof dosimeters to make sure that the measurement of the doses accumulated in the dosimeters irradiated by the metrological service is carried out by the procedure specified in the documents of quality management system of the dosimetry service.

10. Having identified the non-compliance with the requirements of paragraphs 5 to 9 of the Rules of Procedure, the documents submitted in accordance with sub-paragraph 4.4.2 of the Rules of Procedure shall be considered ineligible for the recognition of the dosimetry service and the documents submitted pursuant to sub-paragraph 39.2 of the Rules of Procedure – not properly certified in relation to the implementation of requirements set out in paragraph 29 and / or 34 of the Rules of Procedure, including the results of the comparative measurements taken.

CHAPTER V

RECOGNITION OF THE DOSIMETRY SERVICE OF THE NUCLEAR FACILITY

11. VATESI, upon receipt of the application and documents specified in paragraph 4 of the Rules of Procedure, shall inform the dosimetry service in writing within 5 business days of the receipt of the request, specifying:

11.1. the period within which VATESI, having examined the submitted documents, should take the decision on the recognition of the dosimetry service;

11.2. the possible legal remedies available to the dosimetry service in the event of a dispute;

11.3. the provision that, in the absence of a response within the established period, a certificate of recognition from the dosimetry service shall not be deemed to have been issued.

12. Documents and information submitted by a dosimetry service shall be assessed by the Recognition Committee of the Dosimetry Service established by an order of the Head of VATESI (hereinafter – „the Committee“) which shall consist of at least three members. Representatives of other institutions may also be members of the Committee. An employee of VATESI shall be appointed as the Chairperson of the Committee.

13. When all properly and duly drawn documents referred to in paragraph 4 of the Rules of Procedure are submitted, the Commission shall, within 25 calendar days after the receipt of all

duly completed documents, assess them and prepare the report on their assessment, which shall include the proposals on the recognition of the dosimetry service.

14. The VATESI shall issue a certificate of recognition to the dosimetry service if it has not established the reasons referred to in Article 28(6) of the Law for refusing to issue a certificate of recognition. A certificate of recognition of a dosimetry service shall be deemed to have been issued when an entry is made in the Licence Information System of the decision taken by the Head of the VATESI on the issuance of a certificate of recognition. The Licence Information System shall indicate:

14.1. the name of the authority that issued the certificate of recognition;

14.2. the number and date of issue of the certificate of recognition;

14.3. the holder of the certificate of recognition (name, code and registered office address of the legal entity, name of the structural unit of the legal entity performing the functions of the dosimetry service, if any);

14.4. information on measurements and/or assessments (name of the parameter to be measured and/or assessed, name of the method, designation of the dosimetry service's quality management system document specifying the method of measurement and/or assessment).

15. When, in accordance with paragraph 6 of Article 28 of the Law on Radiation Protection, the Head of VATESI having taken into consideration the conclusions of the Committee on the assessment of the documents referred to in paragraph 4 of the Rules of Procedure, takes the decision that a Certificate of Recognition can be issued to the dosimetry service, such dosimetry service shall be notified in written on the decision of the Head of VATESI and the duty to pay the state fee. When the dosimetry service pays the state fee and notifies on that VATESI, it shall be issued a Certificate of Recognition as specified in paragraph 14 of the Rules of Procedure.

16. Upon finding the reasons referred to in Article 28(6) of the Law for refusing to issue a certificate of recognition, the VATESI shall inform the dosimetry service in writing and provide information on the deficiencies found. Once the dosimetry service has remedied the identified deficiencies and applies for recognition of the dosimetry service, VATESI shall be submitted with the application specified in Section 4 of the Description, the documents demonstrating the remediation of the identified deficiencies and the updated documents referred to in subparagraphs 4.1.2, 4.3.1 and 4.4.2 of the Description, if on the date of resubmission of the application for recognition of the dosimetry service to the VATESI the previously submitted documents do not comply with the validity requirements for the documents referred to in subparagraphs 4.1.2, 4.3.1 and 4.4.2 of the Description respectively. The VATESI shall examine the documents upon receipt and take a decision on the issuance of the certificate of recognition in accordance with the procedure set out in paragraphs 11 to 15 of the Description.

17. The Certificate of Recognition shall be issued to the dosimetry service having specified part of the measurements and / or Assessments specified in the application for recognition, unless, based on the aforementioned measurements and / or Assessments, the reasons for refusal to issue the Certificate of Recognition referred to in paragraph 6 of Article 28 of the Law are identified. Notification of the dosimetry service about the possibility of issuing a Certificate of Recognition in relation to the part of the measurements and / or Assessments specified in the application for recognition only shall be carried out in accordance with the procedure laid down in paragraph 15 of the Rules of Procedure.

18. In case of any change in the particulars referred to in sub-paragraph 14.3 of the Rules of Procedure, the issued Certificate of Recognition shall be amended. The dosimetry service must notify VATESI of any changes in the particulars no later than 10 business days after the change of data and submit a free-form application for the amendment of the Certificate of Recognition specifying the data to be corrected and attaching to the application information confirming the circumstances that led to such amendment. VATESI, having examined the information on the change of data and the application for the amendment of the Certificate of Recognition submitted by the dosimetry service, shall, no later than 10 business days after the receipt of thereof, amend the Certificate of Recognition by making appropriate entries in the Licence Information System.

CHAPTER VI

REQUIREMENTS FOR A QUALITY MANAGEMENT SYSTEM

19. The quality management system of the dosimetry service shall ensure that the results of the measurements taken are accurate, repeatable, verifiable, and the records necessary to ensure the quality of the dosimetry service performance, are kept.

20. The quality management system of the dosimetry service shall be described in the quality management documentation, which shall contain the following:

20.1. the established management policy, which shall reflect the management's commitment to ensure the performance of the dosimetry service in accordance with the quality management system documentation, and the obligation to review and improve the quality management system with the periodicity referred to in the aforementioned documents;

20.2. the prescribed duties and responsibilities of the workers of the dosimetry service for ensuring the operation of the dosimetry service. The workers shall be made aware of the duties and responsibilities prescribed to them;

20.3. the described processes of measurement and / or Assessment performed by the dosimetry service and their execution procedure as well as the processes that have effect on the accuracy of results of the measurements taken and / or on the Assessment;

20.4. the description of the procedure of self-assessment (hereinafter – “self-assessment”) of the activities of a dosimetry service related to measurement taking and / or the Assessment performing. The self-assessment shall be carried out at least once a year and during such self-assessment it should be identified whether the requirements set out in the quality management documents are implemented, the objectives set by the management to the activities of a dosimetry service with respect to the measurement taking or the Assessment performing have been met; the efficiency of the processes evaluated, the non-compliances identified as well as the efficiency of corrective actions analysed. The records of the self-assessment carried out and the results thereof shall be kept;

20.5. the requirements for the education, qualification, expertise of dosimetry service workers required to perform measurement and / or Assessment functions and those for the periodic refresher training. The records on the qualification upgrading training of the workers shall be kept and the supporting documents certifying the above shall be stored in the manner stipulated in quality management documentation;

20.6. the description of the procedure of procurement of the measures required to take measurements. When procuring the measures required to take the measurements, it shall be ensured that the aforementioned measures comply with the specifications of dosimetry laboratory, which must include the description of the procured measure, the requirements for its accuracy, metrological traceability, and the supplier's quality management system;

20.7. the description of the procedure of ensuring that the measured and / or assessed occupational exposure dose of a worker has been correctly assigned to a particular worker;

20.8. the established procedure of monitoring and recording of the environmental parameters that may have effect on the measurement results;

20.9. the established procedure of maintenance and calibration of the measuring equipment. All equipment used for measurement shall be serviced and calibrated at intervals specified in the maintenance and calibration procedures, which shall be determined taking into account the equipment accuracy requirements, the frequency of use, the stability of the parameters, and other factors affecting measurement. The records of the maintenance and calibration performed shall be kept;

20.10. the established procedure of the evaluation of measurement uncertainty;

20.11. the established procedure of the determination of the levels of the natural background of the ionising radiation that have an effect on the final result of measurement;

20.12. the established procedure of record management. The records of the measurements taken and the Assessment performed shall be kept having recorded all the information necessary for

the determination and assessment of the occupational exposure dose of a worker. The records shall be kept as follows:

20.12.1. during the measurement taking or the Assessment performing, and in such a manner that the entire course of actions starting from the measurement taking or the beginning of preparation for the measurement taking up to the obtaining of the final result could be traced and the results could be reproduced;

20.12.2. in such a manner that the person who has taken the measurements and performed the Assessment as well as the measuring equipment and / or the measures used to take a measurement, and the method applied could be traced;

20.12.3. in such a manner that original records could be legible when the corrections of such records are made. When the corrections are made, the original record shall be crossed through with a single line and a new one shall be made as close as possible to the original, specifying the reason for the correction;

20.13. the established procedure of the identification of non-compliances and application of corrective actions. The records of the non-compliances identified and corrective actions applied shall be kept.

CHAPTER VII REQUIREMENTS FOR MEASUREMENT ACCURACY

SECTION I EVALUATION OF MEASUREMENT UNCERTAINTY

21. To assess the accuracy of the external exposure dose measurement method, the factors that affecting the accuracy of measurement method (hereinafter – “the impact factors”) shall be identified and assessed, the combined standard uncertainty calculated, and the comparative measurements taken.

22. For the calculation of the combined standard uncertainty, following the publication of the International Bureau of Weights and Measures ‘Evaluation of measurement data – Guide to the expression of uncertainty in measurement’, JCGM 100:2008, 2008 is recommended.

SECTION II MEASURING OF EXTERNAL EXPOSURE DOSES OF THE PHOTONS AND BETA- RADIATION ACCUMULATED IN THE PERSONAL DOSIMETERS

23. When carrying out accuracy assessment tests and comparative measurements of the measuring system used for individual monitoring of workers, the ratio between the measured individual dose and the actual individual dose equivalent value must not be lower than 0.67 and greater than 1.5, where the actual value of the equivalent Hp(10) and Hp(3) of individual dose is greater than 1 mSv and that of Hp(0.07) is greater than 50 mSv.

24. The maximum permissible combined standard uncertainty of the measuring system for the measuring of the doses accumulated in personal dosimeters, where the values of the measurable dose equivalents Hp(10) and Hp(3) are greater than 1 mSv and that of Hp(0.07) is greater than 50 mSv, shall be 30%.

25. When carrying out the testing of the measuring system used for the measurement of the doses accumulated in personal dosimeters and having identified a systematic error in respect to any impact factor, a correction factor shall be applied to minimise the impact of that particular impact factor on the measurement accuracy.

26. When assessing the accuracy of the method, the following impact factors shall be taken into account:

26.1. the type of ionising radiation that determines the accumulation of dose with regard to which a dosimeter is planned to be used, and energy;

- 26.2. the type of ionising radiation that determines the accumulation of dose with regard to which a dosimeter is not planned to be used;
- 26.3. mixed fields of ionising radiation;
- 26.4. dose and dose rate (the linearity of response);
- 26.5. ionising radiation direction angle;
- 26.6. the homogeneity of the dosimeters (the dosimeters in use and the new ones);
- 26.7. the changes in the environment (temperature, humidity);
- 26.8. the mechanical impact to which a dosimeter is subjected (drop and vibration);
- 26.9. voltage fluctuations;
- 26.10. electric and magnetic field (constant and varying);
- 26.11. the impact of light (including the UV radiation) on a measuring system;
- 26.12. the period between the erasure of a dosimeter (the release of energy accumulated in a dosimeter by exposing that to heat or having otherwise affected) and irradiation and the period between the irradiation and reading of a dosimeter;
- 26.13. the response of dose measurement equipment to zero dose;
- 26.14. calibration uncertainty.

27. The factors specified in paragraph 26 of the Rules of Procedure may be not assessed or taken into account when calculating the combined standard uncertainty, if under the normal conditions the measuring system is not affected by those factors or when it is identified that the standard deviation is so insignificant that it has no effect when calculating the combined standard uncertainty.

28. When evaluating the accuracy of the measurement method, the dosimetry service shall establish the requirements for the homogeneity of the dosimeters, by which it shall be ensured that the maximum permissible standard uncertainty of the measuring system is not exceeded. When new dosimeters are purchased, they must be tested to ensure that the new dosimeters meet the specified homogeneity requirements.

29. To make sure that the condition laid down in paragraph 23 of the Rules of Procedure is met, the dosimetry service that holds the Certificate of Recognition shall, at least once every five years, attend the comparative measurements organised or contact the metrological service for the irradiation of dosimeters in accordance with the requirements laid down in Chapter IV of the Rules of Procedure.

SECTION III

MEASURING OF EXTERNAL EXPOSURE DOSES OF THE NEUTRONS ACCUMULATED IN THE PERSONAL DOSIMETERS

30. When carrying out accuracy assessment tests and comparative measurements of the measuring system used for individual monitoring of workers, the ratio between the measured individual dose and the actual individual dose equivalent value must not be lower than 0.5 and greater than 2, where the actual value of the equivalent $H_p(10)$ of individual dose is greater than 1 mSv.

31. The maximum permissible combined standard uncertainty of the measuring system for the measuring of the doses accumulated in personal dosimeters, where the value of the measurable dose equivalent $H_p(10)$ is greater than 1 mSv, shall not exceed 50%.

32. For the determination of impact factors, it is recommended to follow paragraph 26 of the Rules of Procedure and the recommendations of the measuring system manufacturer.

33. For evaluation of the combined standard uncertainty, at least the impact factors specified in paragraphs 26.1 to 26.6 of the Rules of Procedure shall be taken into account.

34. To make sure that the condition laid down in paragraph 30 of the Rules of Procedure is met, the dosimetry service that holds the Certificate of Recognition shall, at least once every five years, attend the arranged comparative measurements or contact the metrological service for the irradiation of dosimeters in accordance with the requirements laid down in Chapter IV of the Rules of Procedure.

SECTION IV
MEASUREMENTS CARRIED OUT/PERFORMED TO ASSESS THE INTERNAL
EXPOSURE DOSES / FOR THE ESTIMATION OF DOSES FROM INTERNAL
EXPOSURE

35. The accuracy of the measurements performed to assess the internal exposure doses shall be determined on the basis of the minimum measurable activity (hereinafter – the MMA).

36. When measuring the ^{137}Cs , $^{99\text{m}}\text{Tc}$, ^{60}Co radionuclides, the MMA must not exceed 100 Bq, when the measurements of the activity of gamma emitting radionuclides are taken with a whole-body counter.

37. The MMA shall not exceed the reportable levels specified in the Procedure of Organisation, Execution State Environmental Radiological Monitoring and Information Submission to the State and Municipal Institutions, Commission of European Communities and to the Public approved by the Order No 528/490 of the Minister of Environment and the Minister of Health of the Republic of Lithuania of 7 October 2002 ‘On the Procedure of Organisation, Execution State Environmental Radiological Monitoring and Information Submission to the State and Municipal Institutions, Commission of European Communities and to the Public’, when the measurements of the activity of beta radionuclides in biological samples are taken.

38. The MMA shall not exceed the value established in Table 7 of the Lithuanian Hygiene Norm HN 24:2017 “Safety and quality requirements of drinking water“, approved by Order No V-455 of the Minister for Health of the Republic of Lithuania of 23 July 2003 “On the approval of the Lithuanian Hygiene Standard HN 24:2017 ‘Safety and quality requirements of drinking water’” and observing the conditions specified in sub-paragraph 30.5 of thereof standard, when the measurements of the activity of alpha radionuclides in biological samples are taken.

CHAPTER VIII
PROVISION OF DATA TO VATESI

39. Every five years from the date of receipt of the Certificate of Recognition, the dosimetry service must provide to VATESI:

39.1. documents certifying the dosimetry service workers’ qualification improvement over the past five years;

39.2. documents certifying the implementation of the requirements laid down in paragraph 29 and / or 34 of the Rules of Procedure, including the results of the comparative measurements taken;

39.3. information certifying that for the measurement of the external exposure dose accumulated in the dosimeters the dosimetry service has a valid certificate, attesting compliance with the standard LST EN ISO / IEC 17025:2018 “General requirements for the competence of testing and calibration laboratories” or any equivalent standard.

CHAPTER IX
FINAL PROVISIONS

40. A list of dosimetry services that are the holders of valid certificates of recognition shall be published on VATESI website.

41. Persons in breach of the provisions of the Rules of Procedure shall be liable in accordance with the procedure established by the Law on Radiation Protection of the Republic of Lithuania and the Code of Administrative Offences of the Republic of Lithuania.

(Application form for the recognition of dosimetry service)

(name, code (identifier), registered office, telephone, fax, and e-mail of legal entity)

Attn.: State Nuclear Power Safety Inspectorate

**APPLICATION
FOR THE RECOGNITION OF DOSIMETRY SERVICE**

20

No

(Place)

Hereby we are asking to recognise

(name, code (identifier), registered office, telephone, fax, and e-mail of legal entity)

(name of the department of legal entity performing dosimetry service functions)

for carrying out the following measurements of exposure doses and / or activity, and / or the assessments of exposure doses (please check the appropriate):

for the measurements of external exposure of workers:

- in relation to the photons in case of the whole-body individual dose equivalent Hp(10);
- in relation to the neutrons in case of the whole-body individual dose equivalent Hp(10);
- in case of eye individual dose equivalent Hp(3);
- in case of skin individual dose equivalent Hp(0.07);
- in case of extremities individual dose equivalent Hp(0.07);

for the measurements of internal exposure of workers:

- the activity of gamma radionuclides with a whole-body counter;
- the activity of beta radionuclides in biological samples;
- the activity of alpha radionuclides in biological samples;

for the assessment of doses;

- external exposure, equivalent dose (eye, extremities, skin);
- external exposure, effective dose
- external exposure, committed effective dose.

ENCLOSED:

- 1.
- 2.
- 3.

(Position of the manager or his / her authorised person) (Signature) (Forename and surname)