

# Registration of Radiation Doses

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Appendix Radiological Monitoring Document

This Guide is valid as of 1 May 2000 until further notice.

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# Authorisation

Under section 70, paragraph 2, of the Radiation Act (592/1991), STUK – Radiation and Nuclear Safety Authority (Finland) issues general instructions, known as Radiation Safety Guides (ST Guides), concerning the use of radiation and operations involving radiation.

The Radiation Act stipulates that the party running a radiation practice is responsible for the safety of the operations. The responsible party is obliged to ensure that the level of safety specified in the ST Guides is attained and maintained.

Translation. Original text in Finnish.

This Guide includes the requirements relating to the implementation of Council Directive 96/29/Euratom; OJ No. L 159, 29.6.1996, p. 1 and 90/641/Euratom; OJ No. L 349, 13.12.1990, p. 21.

# 1 General

Section 2 of the Radiation Act (592/1991) lays down the general principles of radiation protection: the principle of justification, the principle of optimisation, and the principle of individual protection. In accordance with section 34 of the Radiation Act (amendment 1142/1998), the Radiation and Nuclear Safety Authority (STUK) shall maintain a register of the radiation exposure of occupationally exposed workers in order to ensure compliance with the principles of optimisation and individual protection. This register is called the Dose Register.

This guide contains a description of the Dose Register and specifies the responsibilities of the party running a radiation practice (hereafter the responsible party) to report the relevant information to the Dose Register.

The Dose Register is maintained in accordance with the Personal Data Act (523/1999).

## 2 Dose Register

The Dose Register contains information on the use of radiation and nuclear energy, as well as on exposure caused by natural radiation.

Information to be reported to the Dose Register includes the personal data of every worker, information on the nature of the radiation work, the methods used for the monitoring and the factors affecting radiation exposure, as well as information on the results of the assessment of exposure. The responsible party shall ensure that the information to be registered and the results of monitoring of radiation exposure are reported to STUK, drawn up and specified in a manner prescribed by STUK, in such a way that the radiation exposure of every exposed worker can be determined.

The personal data of a worker will be retained until the worker has or would have reached the age of 75 but, in every case, until 30 years have elapsed since the termination of radiation work.

### 2.1 Reporting to the Dose Register

The responsible party shall report the following information to STUK for registration in the Dose Register:

- name and social security number of the worker or, in the case of a foreign worker, his or her name, date of birth, sex and nationality
- name, line of business and contact information of the employer
- dates of commencement and termination of radiation work
- category of the worker (A or B)
- type of radiation work
- methods used for monitoring of radiation exposure.

For every monitored worker and for every dosimetric period (during which a personal dosimeter or some other measuring method was used), the following additional information shall be reported:

- start and end dates of the dosimetric period
- in the case of an internal dose, the date of intake of radioactive substance, if it is known
- measured or assessed dose.

Radiation exposure which, in an emergency, is caused by the rapid actions required to prevent the spread of radioactive contamination and to bring the radiation source under control shall be separately reported, apart from that caused by radiation work. If no measurement results concerning the exposure are available, the estimated exposure shall be reported. In addition, the conditions prevailing and the measures taken in the event of an accident shall be reported.

Accidental exposures, the conditions contributing to the accident, and the measures taken after the accident, shall also be separately reported, apart from the data on occupational exposure.

## **2.2 Data to be entered in the Dose Register**

As regards exposure to external radiation, registered doses shall include deep dose and surface dose and, if necessary, the equivalent dose of the lens of the eye (definitions in ST Guide 7.2). Deep doses from neutron radiation shall be recorded separately, apart from those caused by photon radiation. A dose measured by a finger dosimeter shall be recorded as a finger dose.

As regards exposure to internal radiation, committed effective dose shall be recorded.

The minimum registered dose is called the recording level. The recording level for the deep dose is 0.1 mSv/month for photon radiation, and 0.2 mSv/month for neutron radiation. The recording level for the surface dose and finger dose is 2 mSv/month. The recording level for doses from internal radiation is 0.1 mSv. In the case of doses below the recording level, a note indicating that the dose was below the recording level shall be made in the Dose Register.

Information of accidental and emergency situations as well as doses received from them shall be entered in the Dose Register separately, apart from the data on occupational exposures.

## **2.3 Conveying Information from the Dose Register**

Personal dose data in the Dose Register may be conveyed without the consent of the person in question to the medical practitioner responsible for medical surveillance and to the responsible party referred to in section 33 of the Radiation Act. This information may also be conveyed to a responsible party in an EU member state, if this is necessary for the fulfilment of the em-

ployer's obligations to monitor radiation exposure.

Information on personal doses may be provided to a person authorised by the responsible party upon written request, or in accordance with a separate written authorisation. Access to the information by other means, e.g. electronically, may be granted on condition that the procedures with respect to the transfer and handling of the information have been separately defined in a manner approved by STUK. These procedures must offer a reliable guarantee that, in the handling of the information, protection of privacy pursuant to the Personal Data Act is ensured.

## **2.4 Informing Workers**

The responsible party shall inform the exposed workers of the monitoring of radiation exposure and of the fact that, for the purpose of monitoring exposure and the safety of the working conditions of the workers, data on each worker's doses will be reported to the Dose Register maintained by STUK.

A worker, information about whom has been reported to the Dose Register, has, pursuant to section 26 of the Personal Data Act, the right to check the information regarding himself or herself from the Dose Register.

## **2.5 Reporting Exposure from Radiation Work Performed Abroad**

When a Finnish worker is employed by a Finnish employer to perform radiation work abroad, the employer is, pursuant to section 35 of the Radiation Act, responsible for ensuring that information regarding radiation exposure from work performed abroad is reported to STUK for registration in the Dose Register.

When a worker, who has been employed by a foreign employer to perform radiation work abroad, commences radiation work in Finland, the employer shall ensure that data on the worker's doses has appropriately been reported to the Dose Register.

### 3 Radiation Passbook

Workers going abroad to carry out radiation work are, at the request of the worker or the responsible party, supplied by STUK with an individual radiological monitoring document (extract from the Dose Register) which, together with a certificate supplied by the medical practitioner responsible for medical surveillance, forms the necessary Radiation Passbook.

A foreign undertaking shall enter the following data in the radiological monitoring document: duration of radiation work, exposure to radiation during the work, and the results of the worker's medical surveillance, if any. If the worker subsequently commences radiation work in Finland, the monitoring document shall be returned to STUK to have the data recorded in the document entered in the Dose Register.

The radiological monitoring document is presented in Appendix.

The Finnish and Swedish authorities have agreed on a procedure whereby doses measured in nuclear power plants in either country are transmitted directly to the Dose Register of the worker's home country. In addition, nuclear power companies in both countries can check data on their employees' doses from the Dose Register of the worker's home country before radiation work is commenced. This means that a Finnish worker does not necessarily need a radiation passbook when he or she goes to work in a nuclear power plant in Sweden, and the doses received in the power plant need not be separately reported to STUK.

APPENDIX



Date  
No.

Page 1 (2)

**RADIOLOGICAL MONITORING DOCUMENT**

This Document is used by Finnish workers exposed to ionizing radiation outside Finland. The Document shall be returned to STUK if the worker will later be exposed to radiation in Finland.

Page 2 of this Document is to be completed by an Approved Dosimetric Service outside Finland.

Surname		
First names		
Identity Number <sup>1)</sup>		Male <input type="checkbox"/>
Last health review <sup>2)</sup>		
Nationality		Female <input type="checkbox"/>
Employer in Finland		

**A. EXPOSURE TO RADIATION PRIOR TO THE ISSUANCE OF THIS DOCUMENT**

Year	Dose from external radiation (mSv) <sup>3)</sup>				Dose from internal radiation (mSv) <sup>4)</sup>	Effective dose (mSv) <sup>5)</sup>
	H <sub>p</sub> (10)	H <sub>p</sub> (0.07)	H <sub>p</sub> (3)	H <sub>p</sub> (10) (neutrons)		
Sum						

- 1) The Identity Number is given the form DDMMYY-NNNN, in which the first part is the date of birth (DD is the day, MM is the month and YY is the year) and the second part is the individual check code.
- 2) The document of the last health review is to be kept attached to this Document.
- 3) The dose from neutrons is given separately. The estimate H<sub>p</sub>(3) of the dose to the lens of the eye is given in cases in which the dose to the lens is remarkably greater than H<sub>p</sub>(10) or H<sub>p</sub>(0.07).
- 4) The dose from internal radiation is given if internal contamination is detected or suspected and if the measured committed effective dose is 0.1 mSv or greater.
- 5) The effective dose is the sum H<sub>p</sub>(10) + H<sub>p</sub>(10) (neutrons) + E(50).

Only the original Document with a signature and stamp is valid.

Signature: \_\_\_\_\_

Stamp

STUK • SÄTEILYTURVAKESKUS STRÅLSÄKERHETSCENTRALEN RADIATION AND NUCLEAR SAFETY AUTHORITY	OSOITE/ADDRESS Laippatie 4 00880 HELSINKI	POSTAL ADDRESS PLP.O.BOX 14 FIN - 00881 HELSINKI, FINLAND	PUH./TEL. (09) 759 881 +358 9 759 881	FAX (09) 7598 8500 +358 9 7598 8500
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APPENDIX

**B. EXPOSURE TO RADIATION AFTER THE ISSUANCE OF THIS DOCUMENT**

This page is to be completed by an Approved Dosimetric Service outside Finland.

Monitoring period	Dose from external radiation (mSv) <sup>1)</sup>				Dose from internal radiation (mSv) <sup>2)</sup>	Effective dose (mSv)
	From to	H <sub>p</sub> (10)	H <sub>p</sub> (0.07)	H <sub>p</sub> (3) H <sub>p</sub> (10) (neutrons)		

Employer outside Finland	Name: Address:	Contact person: Telephone:
Work	Date of beginning:	Date of end:
Approved Dosimetric Service	Name: Address:	Contact person: Telephone: Signature and stamp:

Employer outside Finland	Name: Address:	Contact person: Telephone:
Work	Date of beginning:	Date of end:
Approved Dosimetric Service	Name: Address:	Contact person: Telephone: Signature and stamp:

- 1) Monitoring data after the issuance of this Document is requested to be given as personal dose equivalents H<sub>p</sub>(10) and H<sub>p</sub>(0.07). When necessary, the estimate H<sub>p</sub>(3) of the dose to the lens of the eye shall also be given. The neutron dose H<sub>p</sub>(10) (neutrons) is requested to be given separately. If the monitoring data is given in a different way than requested, please make a note of it in the Further information box below.
- 2) The dose from internal radiation is requested to be given as the committed effective dose E(50) or as the activity measured with a whole body counter. The results of the whole body measurement (nuclides, activities and date of intake) and any other information is requested to be given in the Further information box below.

Further information (dose measurements and health reviews):
