



## HSE STATEMENT ON THE APPROVAL OF **DOSIMETRY SERVICES**

April 2009  
(Section 8: Charges & Appendix III : revised April 2009)

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HSE statement on the approval of dosimetry services under the Ionising Radiations Regulations 1999

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# ***HSE STATEMENT ON THE APPROVAL OF DOSIMETRY SERVICES***

## ***UNDER THE IONISING RADIATIONS REGULATIONS 1999***

This Statement is intended to assist dosimetry services who may wish to be approved under regulation 35 of the Ionising Radiations Regulations 1999 (IRR99) for the purposes of IRR99 or regulation 14 of the Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPPIR). It also serves to inform approved dosimetry services of changes in the arrangements which HSE has made for approval and reassessment of dosimetry services. A general description of the administrative arrangements for making application is given and the subsequent processing of such applications by the Approval Body is outlined. Background notes on the requirements of the Regulations are given in Appendix I. The types of dosimetry service for which performance tests are required are listed in Section 7, and the pass/fail criteria applying to performance tests of dosimetry services are set out in Appendix II. The fees for approval are set out in the annual Health and Safety Fees Regulations. Those current for 2004/2005 are set out in Appendix III.

IRR99 were introduced to implement in Great Britain the major part of the Euratom Basic Safety Standards Directive 96/29/Euratom. They came into force on 1 January 2000 (13 May 2000 for regulation 5 dealing with authorisation of specified practices). They replaced the Ionising Radiations Regulations 1985 (IRR85) and the Ionising Radiations (Outside Workers) Regulations 1993 (OWR93), (except for the requirements in IRR85 for special hazard assessments (regulation 26) and related provisions).

REPPPIR implement the intervention provisions of Directive 96/29/Euratom and, by subsuming the Public Information for Radiation Emergencies Regulations 1992 for premises and transport by rail, they also largely implement the Public Information Directive, 89/618/Euratom and replace the remaining provisions of IRR85. Relevant provisions for the transport of radioactive materials by road, air and water are implemented as necessary by mode specific legislation for the transport of radioactive materials.

The changes brought about by IRR99 and REPPPIR have been reflected in the revised requirements for approval of dosimetry services (see below). This Statement also clarifies the following:

- requirement to keep assessment of emergency exposures separate from routine dose assessment and assessment of accident doses (Criterion 3 of the RADS Supplement on Approval for Emergency Exposures During Intervention)
- requirement to record emergency exposures assessed under REPPPIR separately in the dose record from exposures assessed under IRR99 and not to add together the two as lifetime dose (Criterion 10 of RADS Supplement on Approval for Emergency Exposures During Intervention);

- the frequency of reassessment of dosimetry services;
- fees payable upon application for approval; and
- review of the approval process

This Statement will be reviewed, and if appropriate revised, annually (unless urgent amendments are required in the interim).

## **1**

### **Approval scheme for dosimetry services**

#### **1.1 General**

1.1.1 The latest requirements for approval of dosimetry services (RADS) were published in December 1999. Supplementary requirements for approval for the purposes of assessment and recording of emergency exposures under REPPIR were published in June 2001. Unless otherwise indicated, all references in this Statement to RADS relate to the version issued in 1999 and updated in 2003; entitled "Requirements for the approval of dosimetry services under the Ionising Radiations Regulations 1999", or to the REPPIR supplement, which is subtitled "Supplement on approval for emergency exposures during intervention - the Radiation (Emergency Preparedness and Public Information) Regulations 2001. The updated versions of RADS 1 and the REPPIR supplement are available on HSE's ionising radiations web site <http://www.hse.gov.uk/hthdir/noframes/iradiat.htm>. The updated versions of RADS 2 and 3 will be made similarly available in the near future.. Alternatively, copies of the documents can be obtained from The Dosimetry Services Administrator (see Section 3.1).

#### **1.2 Requirements for the approval of dosimetry services**

1.2.1 In order to obtain approval under IRR99 and REPPIR, a dosimetry service must be able to meet certain criteria specified by HSE. These criteria are set out in the RADS documents, as follows:

Requirements for the approval of dosimetry services under the Ionising Radiations Regulations 1999:

- Part 1 - External Radiations
- Part 2 - Internal Radiations
- Part 3 - Co-ordination and record keeping
- Supplement on approval for emergency exposures during intervention

#### **1.3 Approval Body**

1.3.1 HSE is given power under regulation 35 of IRR99 to approve suitable dosimetry services, or to specify another Approval Body for this purpose. The Approval Body referred to in the RADS documents is HSE.

1.3.2 The Manager of the Approval Programme is:

Mr Michael Nettleton,  
Health & Safety Executive,  
4N.3 Redgrave Court,  
Merton Road,  
Bootle, Merseyside  
L20 7HS  
Tel: 0151 951 3286; fax: 0151 951 4845;  
Email: michael.nettleton@hse.gsi.gov.uk

## **2 Changes to the arrangements for approval and reassessment of dosimetry services**

### **2.1 UKAS accredited dosimetry services**

2.1.1 Dosimetry services accredited under UKAS are no longer exempt from the need to undertake performance tests for the purposes of approval under IRR99. Now all dosimetry services are required to undertake performance tests, if there is a relevant HSE performance test for the type of dosimetry for which they seek approval.

### **2.2 Additional information in application for approval**

2.2.1 HSE specifies, in certificates of approval, the type and type number of each dosimeter that the approval includes, together with details of the type of radiation(s) for which doses are assessed. To clarify this at the stage of application for approval, dosimetry services are asked to specify the type and type number in their letter of application (see Section 3.2).

### **2.3 Clarification of Criterion 3 for approval under REPPIR**

2.3.1 Criterion 3(a) in the RADS REPPIR Supplement indicates that assessment of emergency exposures should be carried out without delay. ADS should also ensure that the assessment of emergency exposures does not delay the assessment of special accident doses (which may exceed 0.5 Gy).

2.3.2 Criterion 3(b) in the RADS REPPIR Supplement indicates that assessment of emergency exposures should where practicable, be kept separate from assessment of routine or accident doses. This means that, where practicable, the batch of dosimeters being analysed should include only those issued for the purposes of REPPIR regulation 14. Where this is not practicable, suitable means must be employed to ensure that these dosimeters (and assessed doses) are clearly distinguished from those being assessed for the purposes of IRR99.

### **2.4 Clarification of Criterion 10 for approval under REPPIR**

2.4.1 Criterion 10 in the RADS REPPIR Supplement indicates that the record of emergency exposures should be separate and clearly distinguishable within the dose record from doses assessed and recorded under IRR99. The cumulative dose recorded

under IRR99 should **not** include any component of emergency exposures assessed under REPPIR.

## **2.5 Requirements for performance testing**

2.5.1 The detailed requirements for performance testing, including the types of dosimetry service which are subject to the performance testing requirements and the pass/fail criteria (i.e. Bands A, B & C performance test results), may be found in Section 7 and Appendix II.

2.5.2 No performance test has so far been specifically developed for the purposes of approval under REPPIR. However, the RADS REPPIR supplement requires ADS who seek approval under REPPIR to obtain performance test results lying in Band A. Performance test results lying in Band B are regarded as a failed test for the purpose of REPPIR approvals. Note; performance tests undertaken for special accident dosimetry alone will not be acceptable for the purposes of approval under REPPIR.

2.5.3 HSE is currently in the process of developing a performance test for low / medium energy photons.

## **3 Application for approval**

### **3.1 Approval Body**

3.1.1 Initial application should be made to:

The Dosimetry Services Administrator,  
Health & Safety Executive,  
4N.3 Redgrave Court  
Merton Road, Bootle, Merseyside  
L20 7HS

Tel: 0151 9514539 (Yvonne Rojas-Weir) or 4894 (Jackie Mee); fax: 0151 951 4845;

Email: [mailto: adsadmin@hse.gsi.gov.uk](mailto:adsadmin@hse.gsi.gov.uk)

### **3.2 Documentation to be submitted for application**

3.2.1 The application should take the form of a letter from the head of the dosimetry service requesting approval or reassessment of approval. The letter should include the following points:

- a description of the type and size of service for which approval is sought and the particular radiations to be covered (for example, 'assessment of whole body dose from external x-ray, gamma and beta radiations') Where possible spectral information for the radiation(s) to be assessed should be included;
- where approval is sought for a service based on the use of personal dosimeters, the type and type number of dosimeter(s) that it is intended should be used;

- the full name and address of the dosimetry service (and contact details). Further details can be found in RADS 1 to 3 and the REPPIR supplement; and
- (if the service is to be limited to certain clients or groups of clients) the names of clients or a description of groups of clients.

In addition, the following should be sent with the application:

- a Statement of Service which gives the required details about the service;
- samples of outputs (with dummy data) and advice given to clients;
- a copy of a signed certificate for a successful performance test, where relevant (see Section 7); and
- the appropriate application fee (see Section 8.1 below).

3.2.2 Every application will be acknowledged and, if appropriate, the applicant will have an opportunity to have an exchange of views with an assessor appointed on behalf of HSE.

## **4 Assessment of dosimetry services**

### **4.1 Criteria for approval**

4.1.1 Dosimetry services will be assessed for compliance with the criteria for approval that have been specified by HSE in the RADS documents. They will also be expected to take account of the guidance set out in Section 9 below.

### **4.2 Method of assessment**

4.2.1 HSE will assess applications for approval on the basis of:

- the Statement of Service provided by the applicant (taking into account any essential supporting documents);
- further information obtained during enquiries by HSE into the service's organisation, resources, personnel and methods (these enquiries will usually involve a visit by an assessor to follow up particular aspects; exceptionally, additional visits may be necessary); and
- reports of performance tests (see Section 7.1 below).

## **5 Reassessment of approved dosimetry services**

### **5.1 Frequency of reassessment**

5.1.1 Approval will be granted for an indefinite period of time. HSE will, however, carry out a reassessment of the dosimetry service, usually at intervals of 5 or 7 years depending on the nature of the dosimetry service, as set out in the RADS documents. ADS are required to apply to HSE for reassessment at the appropriate times as indicated on the schedule to the certificate of approval, and to pay the statutory fees. They should follow the same procedure for application as for a new approval - see Section 3.1.1 above. In special circumstances, the approval body may carry out a

reassessment of the dosimetry service at intervals other than 5 or 7 years.

## **5.2 Revocation of approval**

5.2.1 HSE is empowered to revoke the approval of a dosimetry service which no longer meets the criteria. Details of the circumstances that could lead to revocation of approval are given in the RADS documents. An approved dosimetry service will be invited to make representations to HSE before a final decision is taken to revoke an approval.

## **6 HSE Disputes procedure**

6.1 HSE has a disputes procedure whereby anyone who is aggrieved by the actions or decisions of HSE staff may make representations to have the matter resolved at a higher level within HSE. If a dosimetry service is aggrieved during the assessment of the service, and wishes to pursue the matter, this should be taken up by writing to the individual member of staff's senior officer. The name of that officer appears on all correspondence sent out by HSE.

6.2 If it is recommended that approval should be withheld or revoked, or granted subject to certain conditions, HSE will write to the dosimetry service to warn them. Two weeks will be allowed to enable the dosimetry service to make representations, which will be considered on a fair and fresh basis before a decision is taken.

6.3 In the event of a decision by HSE to withhold approval or to revoke an approval previously granted, or to impose conditions on an approval, an aggrieved dosimetry service wishing to appeal against that decision should make representations to the:

Director, Corporate Specialist Division,  
Health & Safety Executive  
4N.3 Redgrave Court  
Merton Road  
Bootle, Merseyside  
L20 7HS

together with full supporting documentary evidence. Such representations should be made within 3 months of receiving formal notice of the decision.

## **7 Performance tests**

### **7.1 Types of dosimetry service required to undertake performance tests**

7.1.1 The general requirements for performance tests are set out in the RADS documents. The types of dosimetry techniques for which performance tests are required are currently as follows:

- External radiation - whole body, gamma rays
- External radiation - whole body, fast neutrons
- External radiation - extremity/skin, gamma rays
- External radiation - "special" accident dosimetry, whole body gamma rays (see paragraph 5 of RADS Part 1)

- Internal radiation - measurement of tritium in urine

7.1.2 The protocols for the tests are published separately by HSE: copies may be obtained from the Dosimetry Services Administrator. HSE is currently developing other performance tests and when (after consulting dosimetry services) further tests are introduced, these will be set out in future editions of this Statement.

## **7.2 Arrangements with test-house**

7.2.1 Performance tests are required to be carried out either with a United Kingdom Accreditation Service (UKAS) accredited test-house, or, in certain cases, with a test-house nominated by HSE. Only in the case of performance tests for which no UKAS accredited test-house exists will HSE nominate a test-house. In the first instance, dosimetry services should therefore make enquiries of UKAS in order to identify a suitable test-house. A list of laboratories which are accredited by UKAS for carrying out HSE published performance tests may be obtained by writing to UKAS, whose address is:

UK Accreditation Service, 21-47 High Street, Feltham, Middlesex, TW13 4UN  
Tel: 0208-917 8400 Fax: 0208-917 8500.

7.2.2 If a dosimetry service is seeking approval for one of the dosimetry techniques that are subject to performance testing requirements, it should make arrangements with an appropriate test-house for such a test to be undertaken within the 3 months prior to making an application (as set out in RADS Part 1 or Part 2 as appropriate). A copy of the results of that test should be included in the application. ADS are required to repeat these performance tests at least every 18 months and provide HSE with copies of the results of these tests also.

## **7.3 Results of performance tests**

7.3.1 The results of performance tests are categorised as either Band A, Band B, or Band C. Band A represents a successful performance test, and new applicants for approval must achieve a Band A result before gaining approval. Band C (and in the case of approvals under REPPiR, Band B) represents a failed performance test; ADS who obtain such a result are required to take immediate action to review the reasons for such a result and develop an action plan to improve the service. A failed performance test may lead to revocation of approval (see Section 5.2 above). Band B (except for approvals under REPPiR) represents an intermediate case between success and failure. ADS obtaining Band B results must also carry out an in-service review; HSE will consider the outcome of such reviews at the time of formal reassessment of approval.

7.3.2 For each of the types of performance test required, the definitions of Bands A, B and C are set out in Appendix II of this Statement.

## **8 Charges**

### **8.1 Fees for approval**

8.1.1 The current fees for approval of dosimetry services and for reassessment of

approved dosimetry services are set out in the Health and Safety (Fees) Regulations 2007 (SI 2007 No. 813) and may be found at <http://www.opsi.gov.uk/si/si2007/20070813.htm#8> and <http://www.opsi.gov.uk/si/si2007/20070813.htm#sch7> and in Appendix III of this Statement.

In line with HM Treasury guidance, the Health and Safety Commission decided that the full cost of the approval of dosimetry services for REPPIR purposes should be recovered from the beginning of April 2003. 'Full cost' means that all work carried out to maintain the approval programme (by the Programme Manager, Dosimetry Administrators and other HSE employees) must be recovered. Such maintenance requires significant amounts of work between assessments (for example, in relation to database maintenance, development work, dealing with queries and general management of the approvals programme). When this principle is applied to REPPIR, the flat rate fee at April 2007 was £1770..

8.1.2 As of April 2009, the flat rate fee for the very similar work under IRR99 for groups I, II and III was £672, well below full cost. which means that the fees for REPPIR and IRR99 approvals will continue to differ significantly for some considerable time.

8.1.3 The Fees Regulations continue to provide for a fee to be charged to cover reasonable costs of travelling and subsistence of any member of HSE's staff in connection with an inspection of a dosimetry service. However, HSE will only make such a charge in the event of an inspection of a dosimetry service located outside the United Kingdom. The application fee now includes an element to cover the travelling and subsistence costs of inspections of dosimetry services located within the UK.

8.1.4 The applicant should include payment of the application fee at the time the application is made (see Section 3.1.1 above). Work on the approval or reapproval cannot start until the application fee is received.

8.1.5 HSE will invoice the applicant for the fees for the work carried out by the inspector and (if appropriate) for the travel and subsistence costs. These fees are payable before the results of the assessment are communicated to the applicant.

8.1.6 Where the Approval Body is in the process of considering an application for approval, or reassessment of approval, of a dosimetry service on the date that new Fees Regulations come into force, the fee charged for work done by an inspector will use the "old" hourly rate for work done prior to that date, and the "new" hourly rate for any further work. The administration fee will have been paid on application and will be the "old" fee.

## **9 Guidance for dosimetry services**

### **9.1 HSE publications**

9.1.1 In addition to the RADS documents, HSE has published the following guidance for dosimetry services:

a) General Guidance for Laboratories providing Personal Dosimetry Services, 1991 (reprinted, with minor amendments, 2001); and

b) Guidance on Individual Monitoring of Internal Radiation from the Prolonged Retention of Long-lived Radionuclides, (revised 1998).

These documents, which may be obtained from the Dosimetry Services Administrator (see Section 1.2), remain valid. Allowance will have to be made in using the latter document for references to IRR85 and old dose quantities.

## **9.2 Other publications**

9.2.1 HSE also makes reference to other publications, which are listed in a bibliography in each of the RADS documents.

### **Supply of radiation passbooks for outside workers**

Regulation 21(5) of IRR99 requires employers of outside workers (as defined) to provide them with a radiation passbook. These radiation passbooks are only obtainable through dosimetry services approved for co-ordination and record keeping (ADS (Records)). ADS (Records) can obtain radiation passbooks from HSE Books. The address is:

HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 2WA. Tel: 01787 881165; fax: 01787 313995; website: [www.hsebooks.co.uk](http://www.hsebooks.co.uk)

## **11 Review of approval process**

HSE will review the approval process from time to time to ensure that it is still relevant, consistent and transparent. We will consult dosimetry (and other relevant persons) regarding any changes we propose to make to the approval programme.

## **APPENDIX I**

### **Background Notes on Legal Requirements**

IRR99 came into force on 1 January 2000. IRR99 revoked both IRR85 and OWR93, except that regulation 26 of IRR85 (Special hazard assessment), and related provisions, continued in force. REPPIR (see below), have revoked these remaining provisions for premises and transport of radioactive material by rail, and other mode specific legislation has since revoked the same provisions for transport of radioactive materials by carriage other than rail.

IRR99 require that employees who are likely to receive more than specified doses of ionising radiation be designated as classified persons. Regulation 21 of IRR99 requires employers of classified persons to make suitable arrangements with one or more approved dosimetry services for making systematic assessments of all doses likely to be significant, and for making and maintaining dose records. The assessments of doses are required to be made by the use of suitable individual measurement for appropriate periods or, if this is inappropriate, by means of other suitable measurements.

The employer's arrangements with an approved dosimetry service for keeping dose records

must include:

{ long term record keeping

{ providing dose summaries, copies of dose records and termination records both to

the employer and to HSE

{ handling estimated doses and retaining the information on which the estimates are based

{ providing radiation passbooks and maintaining records of doses for outside workers

HSE is given power under regulation 35 of IRR99 to approve suitable dosimetry services, or to specify another Approval Body for this purpose; currently the function remains with HSE. All dosimetry services wishing to be approved will need to apply to HSE as detailed in Section 3.1 of this Statement. Approvals are granted by means of a written certificate, which sets out the purposes for which approval is granted and the conditions to which that approval is made subject. They may be revoked in writing at any time. HSE may reassess any approval at suitable periods.

Regulation 12, which deals with contingency plans, includes a requirement, in certain circumstances, for suitable dosimeters or other devices to be obtained from an approved dosimetry service, for the purpose of assessing doses received as a result of an accident. Regulation 23 sets out the dosimetry requirements which apply after an accident or other occurrence which is likely to cause a person to receive an effective dose exceeding 6 mSv, or an equivalent dose above 3/10 of a dose limit. In approving dosimetry services, HSE issues certificates of approval which include these requirements, as well as the requirements of regulation 21. ADS require a separate HSE approval to provide an accident dosimetry service to employers who have to issue anyone with dosimeters or other devices under IRR99 regulation 12(2)(b), in circumstances where a dose to the whole body greater than 0.5Gy might be received as a result of an accident, incident or occurrence.

HSE maintains a current list of approved dosimetry services, which is updated at intervals, and may be viewed on the HSE website at the following address: <http://www.hse.gov.uk/radiation/ionising/doses/index.htm> or obtained on request to the Dosimetry Services Administrator (see Section 3.1) or via HSE InfoLine (08701 545500).

Further information may be obtained from "Work with Ionising Radiation", the HSC Approved Code of Practice and guidance on IRR99, L121, (see for example paragraphs 381-443).

### **The Radiation (Emergency Preparedness and Public Information) Regulations 2001**

REPPPIR came into force on 20 September 2001 and amended in 2007. They replaced the special hazard assessment and related provisions of IRR85 for work on premises and for certain transport operations (rail transport and transferring or conveying through any public place other than by alternative transport modes). They also partly subsume the Public Information for Radiation Emergencies Regulations 1992.

REPPPIR require operators of premises and rail carriers whose work involves more than specified quantities of radioactive substances to carry out hazard identification and risk evaluation to determine whether a 'radiation emergency' is reasonably foreseeable. A

radiation emergency is, a radiation accident in which a person, not present on the premises where the radiation emergency occurred and who is not involved in any intervention activity, could receive an effective dose of 5mSv within a year of the emergency. Where radiation emergencies are reasonably foreseeable there are requirements for the development of emergency plans (including off-site emergency plans prepared by local authorities), for review and testing of these plans, and for consultation. Emergency plans may allow for intervention personnel to be authorised to receive emergency exposures, which can exceed normal dose limits. Levels have to be laid down above which emergency exposures would not normally be allowed to go, except for authorised volunteers for the purpose of saving human life.

Employers of intervention personnel must make arrangements with dosimetry services approved under IRR99 for the purposes of REPIR for assessment of doses received as a result of emergency exposures and for the separate recording of such doses in dose records.

Further information can be obtained from HSE's 'A guide to the Radiation (Emergency Preparedness and Public Information) Regulations 2001' (L126).

## **APPENDIX II**

### **Pass/fail criteria used in performance tests**

The tables in this appendix show the definitions of the three bands into which results of performance tests are categorised. Table 1 is for the results of performance tests of external radiation dosimetry services measuring doses from gamma rays to the whole body; Table 2 is for dosimetry services measuring doses from fast neutron radiation to the whole body; Table 3 is for dosimetry services measuring doses to the (skin of the) extremities; Table 4 is for "special" accident dosimetry; and Table 5 is for measurements of tritium in urine.

The measurement protocols for the various performance tests, which define the terms "bias" and "relative standard deviation" used in the tables, are published by HSE. The Copies of the measurement protocols may be obtained from the Dosimetry Services Administrator (see Section 3.1).

<b>TABLE 1 - External radiation - whole body gamma rays</b>	
<b>Band</b>	<b>Definition</b>
<b>Band A</b>	<p>The magnitude of the bias in the overall results is less than 20%;  <b>and</b> the relative standard deviation in the overall results is less than 10%;</p> <p><b>and</b> the magnitude of the bias for each of the groups of 5 dosimeters is less than 20% (30% for any group irradiated to 1.0 mSv or less);</p> <p><b>and</b> the relative standard deviation for each of the groups of 5 dosimeters is less than 10% (15% for any group irradiated to 1.0 mSv or less)</p>
<b>Band B</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 20% and less than 25%;</p> <p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 10% and less than 20%;</p> <p><b>or</b> the magnitude of the bias for any of the groups of 5 dosimeters is greater than or equal to 20% (30% for any group irradiated to 1.0 mSv or less);</p> <p><b>or</b> the relative standard deviation for any of the groups of 5 dosimeters is greater than or equal to 10% (15% for any group irradiated to 1.0 mSv or less)</p>
<b>Band C</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 25%;</p> <p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 20%</p>

**APPENDIX II (CONTINUED)**

<b>TABLE 2 - External radiation - whole body fast neutrons</b>	
<b>Band</b>	<b>Definition</b>
<b>Band A</b>	<p>The magnitude of the bias in the overall results is less than 20%;</p> <p><b>and</b> the relative standard deviation in the overall results is less than 25%;</p> <p><b>and</b> the magnitude of the bias for each of the groups of 5 dosimeters is less than 20% (50% for any group irradiated to 1.0 mSv or less);</p> <p><b>and</b> the relative standard deviation for each of the groups of 5 dosimeters is less than 25% (50% for any group irradiated to 1.0 mSv or less).</p>
<b>Band B</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 20% and less than 30%;</p>

	<p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 25% and less than 30%;</p> <p><b>or</b> the magnitude of the bias for any of the groups of 5 dosimeters is greater than or equal to 20% (50% for any group irradiated to 1.0 mSv or less);</p> <p><b>or</b> the relative standard deviation for any of the groups of 5 dosimeters is greater than or equal to 25% (50% for any group irradiated to 1.0 mSv or less).</p>
<b>Band C</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 30%;</p> <p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 30%.</p>

### APPENDIX II (CONTINUED)

<b>TABLE 3 - External radiation - extremity/skin gamma rays</b>	
<b>Band</b>	<b>Band Definition</b>
<b>Band A</b>	<p>The magnitude of the bias in the overall results is less than 20%;</p> <p><b>and</b> the relative standard deviation in the overall results is less than 15%;</p> <p><b>and</b> the magnitude of the bias for each of the groups of 5 dosimeters is less than 20%;</p> <p><b>and</b> the relative standard deviation for each of the groups of 5 dosimeters is less than 15%</p>
<b>Band B</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 20% and less than 25%;</p> <p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 15% and less than 20%;</p> <p><b>or</b> the magnitude of the bias for any of the groups of 5 dosimeters is greater than or equal to 20%;</p> <p><b>or</b> the relative standard deviation for any of the groups of 5 dosimeters is greater than or equal to 15%</p>
<b>Band C</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 25%;</p> <p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 20%</p>

**APPENDIX II (CONTINUED)**

<b>TABLE 4 - External radiation - accident dosimetry, whole body gamma rays</b>	
<b>Band</b>	<b>Definition</b>
<b>Band A</b>	<p>First report received by test house within 8 hours;</p> <p><b>and</b> all dosimeters receiving a dose greater than 1 Gy correctly identified in the first report;</p> <p><b>and</b> final report received by test house within 1 week;</p> <p><b>and</b> all reported doses in final report within + 30% of "true" doses</p>
<b>Band B</b>	<p>As for Band A, except:</p> <p><b>either</b> first report received by test house up to 1 hour late;</p> <p><b>or</b> final report received by test house up to 1 day late;</p> <p><b>or</b> 9 out of 10 reported doses in final report within + 30% of "true" doses</p>
<b>Band C</b>	Any other result

**APPENDIX II (CONTINUED)**

<b>TABLE 5 - Internal radiation - measurement of tritium in urine</b>	
<b>Band</b>	<b>Definition</b>
<b>Band A</b>	<p>The magnitude of the bias in the overall results is less than 15%;</p> <p><b>and</b> the relative standard deviation in the overall results is less than 10%</p>
<b>Band B</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 15% and less than 25%;</p> <p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 10% and less than 20%</p>
<b>Band C</b>	<p>The magnitude of the bias in the overall results is greater than or equal to 25%;</p> <p><b>or</b> the relative standard deviation in the overall results is greater than or equal to 20%</p>

### APPENDIX III

#### Fees for 2009/10 for applications for approval or reassessment of approval of dosimetry services under IRR99 (see section 8 of the Statement)

##### 1. Fees for applications for approval or reassessment of approval of dosimetry services under IRR99

Description	Fee	Fee for work by Nuclear or Specialist Inspector
Approval or reassessment of approval of Dosimetry Services granted under regulation 35 of the Ionising Radiations Regulations 1999		
<b>Group I</b> Dose record keeping		
(a) Where the application is solely in respect of Group I functions	£672	£134 per hour
(b) Where the application for Group I functions is linked to an application in respect of functions in another group	£672	£134 per hour
<b>Group 2</b> External Dosimetry		
(a) Whole body (beta, gamma, thermal neutrons) film	£672	£134 per hour
(b) Whole body (beta, gamma, thermal neutrons) thermoluminescent dosimeter (TLD)	£672	£134 per hour
(c) Whole body (neutron), other than sub-groups (a) or (b)	£672	£134 per hour
(d) Whole body, other than sub-groups (a), (b) or (c)	£672	£134 per hour
(d) Whole body, other than sub-groups (a), (b) or (c)	£672	£134 per hour
(e) Extremity monitoring	£672	£134 per hour
(f) Accident dosimetry, other than in the previous sub-groups	£672	£134 per hour
<b>Group III</b> Internal Dosimetry		
(a) Bio-assay, in vivo monitoring or air sampling	£672	£134 per hour
(b) for each additional one of the above techniques	£672	£134 per hour

**2. Fees for applications for approval or reassessment of approval of dosimetry services under REPPIR**

<b>Description</b>	<b>Fee</b>	<b>Fee for work by Nuclear or Specialist Inspector</b>
<b>Purpose of application</b>		
<b>Approval or reassessment of approval of Dosimetry Services granted under regulation 35 of the Ionising Radiations Regulations 1999 for the purposes of regulation 14 of the Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPIR)</b>	<b>£1,870</b>	<b>£134</b>

**Please note: HSE is to charge for substantial amendments to existing approvals, from April 2009 the charge will be £55 per hour worked.**