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WEIGHTS AND MEASURES

The Weights and Measures
(Packaged Goods)
Regulations 2006 – Guidance
Note

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THE WEIGHTS AND MEASURES (PACKAGED GOODS REGULATIONS) 2006 – GUIDANCE NOTE

Introduction

1. The following guidance has been produced by the Department of Trade and Industry to assist all affected by the Weights and Measures (Packaged Goods) Regulations 2006 SI 2006/XXX (“the Regulations”).
2. This guidance is not intended to be an exhaustive explanation of the Regulations. It has no legal force, though it may be found helpful in understanding the requirements of the Regulations. The law will continue to be enforced by Inspectors of Weights and Measures employed by local authority trading standards services. Those services will be pleased to provide further assistance and advice on the Regulations and how those affected can in practice discharge the obligations laid on them. It should be noted however that definitive interpretation of the law is a matter for the Courts.

Background

3. The Regulations repeal Part V of the Weights and Measures Act 1985 and replace the Weights and Measures (Packaged Goods) Regulations 1986 (SI 1986/2049). They form part of a programme of simplifying UK weights and measures law within the requirements of the relevant EC Directives. The Directives which are implemented through these Regulations are Directive 75/106/EEC and Directive 76/211/EEC, governing the quantity control of packaged goods under the ‘average’ system of quantity control. This system was first introduced in 1980; before that, UK law required all indications of quantity to be minimum indications (that is, the quantity had to be at least equal to that indicated). The new Regulations reflect more precisely the wording in the Directives.
4. It should be noted that the Regulations also remove the statutory effect of certain parts of the Code of practical guidance for packers and importers (Issue No 1, 1979) and the Manual of practical guidance for Inspectors (Issue No. 1, 1980). The Code and the Manual however contain reference material (particularly in the Appendices) that may still be found helpful for the understanding of average quantity control procedures in general. But the guidance that they provide on the requirements of the 1986 Regulations is no longer relevant.
5. Annex A of this guidance contains a commentary on each of the Regulations, Annex B sets out further advice on the suitability of measuring or checking equipment, Annex C provides advice on quantity control systems and gives an example of setting up a sampling quantity control system, and Annex D indicates broadly how the new requirements correspond to the previous legislative requirements.

What the average system does

6. The average system applies to most goods which are pre-packed in pre-determined quantities by weight or volume, including most foodstuffs and non-foodstuffs. Its aim is to provide a defined regulatory framework for the automatic filling of packages. A degree of variation in the content of the packages is inherent in all such processes: the aim of the average system is to define acceptable tolerances for that variation, so that the purchaser may buy with the confidence that he is protected against short weight or measure, while businesses are protected against unfair competition. As its name suggests, the average system allows a proportion of packages to fall below their stated quantity within a specified tolerance (see Packers' Rules below). This is in principle a difference from the older weights and measures legislation, which is sometimes by contrast referred to as the 'minimum' system. (In some circumstances, packers may however still find it more convenient to opt for measuring each package individually under the minimum system, see para. 19.)

What constitutes a package under the Regulations?

7. For the purposes of the Regulations a "package" is defined as the combination of a product and the individual package in which it is packed when:

- it is placed in a package of whatever nature without the purchaser being present and;
- the quantity cannot be altered without the package either being opened or undergoing a perceptible modification (except in the case of knitting yarn).

8. The Regulations apply this system to all packages intended for sale in constant nominal quantities which are between 5 g or 5 ml and 25 kg or 25 L, inclusive.

9. The Regulations also cover packages, in the ordinary sense, which contain two or more items, at least one of which is itself a "package" within the meaning of the Regulations. The enclosing packaging is in such a case defined as an "outer container". Where outer containers are intended for sale to consumers, or would be regarded as appropriate for such sales, the outer container has to reproduce the quantity indications which are required on any packages which it may contain, and must indicate the number of packages contained (unless this information can be ascertained through transparent packaging).

10. For foods in a liquid medium it may also be appropriate to indicate the drained net weight. A recommended procedure for determining the drained weight can be found in WELMEC document 6.8.

11. In distinguishing between the contents and the packaging, the approach of OIML Recommendation 87 is recommended. This classifies as packaging 'everything that is intended to be left over after use of the product, except for items naturally in the product. 'Use' includes consumption or subjecting to a treatment.' As an example, using this definition the stick in a lollipop is considered part of the packaging, as is the immediate wrappers on wrapped sweets.

The Packers' Rules

12. The Directives set out three Rules with which packers must comply:

- the actual contents of the packages should not be less, on average, than the nominal quantity;
- the proportion of packages which are short of the stated quantity by a defined amount (the "tolerable negative error" or TNE) should be less than a specified level; and
- no package should be short by more than twice the TNE.

13. The Directives also prescribe a specific test procedure (the reference test) which enforcement authorities will use at the premises of packers and importers, when it is necessary to establish whether a particular batch of packages comply with the first two Rules. Under the 1986 Regulations and Part V of the Weights and Measures Act, packers and importers were placed under a duty to pass the reference test. The new Regulations instead focus directly on the Rules. They place packers under a duty to comply with the three Rules. Packers may use whatever quantity control and checking procedures they find convenient, so long as these are sufficiently rigorous to ensure compliance with the three Rules. As before, Trading Standards officers may carry out reference tests where they consider this appropriate to check compliance with the first two Rules.

14. The packers and importers checks need to be 'sufficiently rigorous' to ensure that the packages are packed to meet the three packers' rules. This implies that the system should be as efficient as a reference test to control the average quantity and the proportion of packages with a deficiency of more than the tolerable negative error.

15. In the design of the system, attention is recommended to the following issues:

- a. for processes controlled by sampling, that the sampling plan is specified and that the target quantity and control limits are appropriately set,
- b. for packing lines controlled by checkweighers, that the set points are appropriate,
- c. that checking or measuring equipment is properly maintained and checked,
- d. that the system should be formalised and reviewed regularly for its appropriateness, and include corrective actions and records that must be made,
- e. that the system should specify the training for staff to ensure that the system is adequately implemented

16. Further advice on designing and setting up quantity control systems is contained in Appendices C and D of the Packers' Code.

17. All products are required to meet the three packers' rules at the time of packing. For desiccating products, which may lose weight after packing, the onus is on the packer to prove that any subsequent failure was due entirely to the desiccation of the product contained in the packages after they were made up.

Tolerable negative error

18. The TNE is the amount set out in the table below in relation to the nominal quantity on the package:

Nominal quantity in grams and millilitres	Tolerable negative error	
	As a %age of nominal quantity	g or ml
5 to 50	9	-
from 50 to 100	-	4.5
from 100 to 200	4.5	-
from 200 to 300	-	9
from 300 to 500	3	-
from 500 to 1,000	-	15
from 1,000 to 10,000	1.5	-
from 10,000 to 15,000	-	150
above 15,000	1	-

Duties as to checking, documentation and suitable equipment

19. In order to demonstrate compliance with the three Rules, packers are placed under a duty either to measure the content of each package, or to check the contents by sampling. Where packers choose to measure each package, there is no requirement under the Regulations for records to be made. However, if records are not made, compliance with the packers' rules can be assured only by checking that each package contains at least the stated quantity (that is, by packing to the minimum system). This method of packing is likely to be best suited for small batches of packages, but may be a helpful option for small-volume packers.

20. Where packers do not measure the contents of each package but choose to rely on sample checking to demonstrate compliance, the Regulations require records to be made of the results of this checking, which must include any corrections and adjustments made to the packing system. Records must be kept for a period of at least one year from the date on which the packages leave the packer's premises or until the date, if any, marked on the package which indicates by when the product ought to be consumed, whichever is shorter. As noted earlier, the system of sampling used must be sufficiently rigorous to ensure that the packages are packed in line with the three Rules.

21. All measurements and checks are required to be performed with equipment that is suitable for the purpose. Unlike the 1986 Regulations that they replace, these Regulations do not prescribe the characteristics of the permitted equipment. So far as the requirements of these Regulations are concerned, manufacturers and packers may use for these purposes any equipment that is suitable for the task intended. However, all equipment used must of course comply with all current legislation regulating that class or type of equipment. Annex B provides further information on suitability of equipment and relevant legislation.

Responsibilities of Packers and Importers in the Marking of Packages

22. Packers and importers must ensure that packages are marked in such a way as to be indelible, easily legible and visible on the package in normal conditions of presentation (on the outside or inside if the packaging is transparent) with the following:

- the nominal quantity, expressed in litres, centilitres or millilitres for liquids or in kilograms or grams for other products;
- the size of the marking should comply with the following table:

Nominal quantity in g or ml	Minimum height of figures
- <50	2 mm
≥50 - 200	3 mm
≥200 - 1000	4 mm
≥1000 - 10000	6 mm

- The nominal quantity must be shown in figures followed by the name or the symbol for the measurement unit involved.
- The nominal quantity must include any additional quantity to which any statement on the package refers. So if the package states that a quantity or percentage is provided “free” the nominal quantity must refer to the total quantity contained in the package including the “free” amount.
- The name and address of the packer or importer or of the person who arranged for the packer to make up the package in the UK, or a mark which enables the name and address of any of the foregoing to be identified.

23. If when a package is made up or imported it is not marked with an indication of nominal quantity the packer or the importer must devise, and keep a record of, a statement of the nominal quantity until such time as the nominal quantity is marked on the package.

24. Where a package contains liquid its nominal quantity must be indicated by the volume at 20°C. Where it contains a product other than liquid, including a mixture of liquid and solids, its nominal quantity must be indicated by weight.

Exceptions to the Nominal Quantity Declaration

25. The normal requirement for a declaration of the nominal quantity in the units of measurement shown above does not apply to milk sold or supplied to a consumer in a returnable container. A supplementary indication of the nominal quantity in non-metric units is allowed if it conforms to section 8(5A) of the Weights and Measures Act 1985. This means it must accompany the normal declaration of quantity expressed in metric units and may not be larger or more prominent.

The E-mark

26. The E-mark, when placed on a package, is a declaration by the packer that the contents comply with the average system Directives. As such, it acts as a metrological passport throughout the EEA, assuring free access, so far as metrological requirements are concerned, to all EEA markets. There is no requirement for packages to be labelled with the E-mark, which is entirely optional for the packer. But the Regulations prohibit its use on packages which do not meet certain criteria.

27. Where used, the E-mark must be at least 3 mm high and applied to packages in the same field of vision as the indication of the nominal quantity. The technical specifications of the E-mark are shown in Schedule 2 of the Regulations.

28. In order to qualify for E-marking the package must:

- have been packed in conformity with the three packers' rules, and
- have a nominal quantity between 5 g or ml and 10 kg or L (inclusive)

29. Should a packer wish to export E-marked packages from the UK (regardless of whether they are being exported direct from the UK or have first been imported with the aim of exporting them) he must provide the relevant local trading standards department with a notice identifying the premises where this activity is taking place, prior to exporting or importing the packages.

Units of measurement

30. The Regulations reproduce certain provisions of the Weights and Measures (Quantity Marking and Abbreviation of Units) Regulations 1987 (SI No 1987/1538), so far as these are applicable to packaged goods, and packages subject to the Regulations are no longer subject to that SI. This relocation is only for the convenience of those affected by the new Packaged Goods Regulations, and does not amend the relevant legal requirements.

Marking Requirements

31. The new Regulations reflect the wording in the Directives and require the above markings to be easily legible and visible in normal conditions of presentation. It will be a matter of fact whether the markings are:

- easily legible, and
- visible in normal conditions of presentation.

32. Legibility requires use of an appropriate font, and that the colour of print of the marking is in good contrast to the background. Where the container is transparent the marking must be in good contrast to the colour of the product forming the visible background. The RNIB has produced helpful 'clear print guidelines', which recommend fonts such as Arial, Univers and New Century Schoolbook, the use of a minimum point size of 12 or 14, and selective use only of block capitals and italics. Use of these guidelines will be helpful in ensuring legibility of the text. As regards the marking of the nominal quantity, however, note the minimum height of figures required by the Regulations (para. 22 above).

33. To ensure that markings are visible in normal conditions of presentation, it is recommended that the markings be placed on the front, or possibly the top, of the container.

Enforcement

34. The law on weights and measures is enforced by Inspectors of Weights and Measures employed by local authority trading standards services. In order to check compliance with the law they are empowered to, amongst other things and subject to the conditions and safeguards in the Regulations, enter premises and to inspect and test any packaging equipment and to inspect and take copies of any relevant records or documents. They may also seize for as long as needed any equipment, record, document or package where there is reasonable cause to believe that an offence has been committed.

Legal Instruments

35. Copies of the legislation referred to in this guidance can be viewed at: www.hmso.gov.uk/stat.htm or obtained from The Stationery Office Ltd bookshops (tel. No: 0870 6005522).

Department of Trade and Industry
16 January 2006

**Weights and Measures (Packaged Goods) Regulations 2006:
Guide To Each Regulation**

Regulation 1: Citation, Commencement and Revocation

1.1 Regulation 1 sets out the date that the Regulations will come into force and gives effect to Schedule 1, which repeals Part V of the Weights and Measures Act 1985 and revokes the Weights and Measures (Packaged Goods) Regulations 1986 and its three amending orders.

1.2 The proposed date of commencement is 6th April 2006. This date fits in with the DTT's policy of commencing new legislation so far as possible on one of two implementation dates (6th April and 1st October) to reduce the burdens on business of legislation taking effect at different dates throughout the year.

1.3 The Regulations do not apply to Northern Ireland, which has its own weights and measures legislation.

Regulation 2: Interpretation

1.4 This Regulation provides interpretation of the terms used in the Regulations. The definitions of "importer", "nominal quantity", "outer container" and "package" are of particular importance for an understanding of the Regulations.

Regulation 3: Scope of Application

1.5 This Regulation sets out what is caught by the Regulations and also those cases where the Regulations do not apply.

1.6 The Regulations apply to packages that have been made up in a weight or volume of between 5 g or ml and 25 kg or L (inclusive) where all the packages are intended to contain the same nominal quantity which has been determined by the packer in advance.

1.7 They also apply to outer containers, which are containers which contain packages to which the Regulations apply and which were placed in the outer container without the purchaser being present, can't be altered without the package being opened or undergoing a perceptible modification, and where the container is intended to be sold, or would normally be regarded as appropriate for sale, to a consumer.

1.8 It also applies the Regulations to bread in the form of single loaves, made up in a predetermined constant quantity between 300 g and 10 kg, which is unwrapped or made up in open packs. Regulation 3 (2) gives effect to Schedule 6 which sets out modifications in the application of these Regulations to bread.

1.9 Regulation 3(4) provides that certain packages which are not E-marked are not caught by the Regulations. The packages to which the Regulations do not apply are non E-marked

packages that are: intended for use in a trade or business process; or contain products smaller than 5 g or ml which are intended to be sold to the ultimate consumer, but where the package itself would not normally be sold to the ultimate consumer; or intended to be sent outside the UK; or intended to be used by the armed forces in the UK; or intended to be used as ships stores for a journey ending outside Great Britain. These exemptions are currently provided for by Regulation 5 or Schedule 2 of the 1986 Regulations. This regulation also includes an exemption for single application cosmetic packs thus aligning the Regulations with the Cosmetics Directive.

1.10 Regulation 3(5) provides that exempt imports are not subject to the main Regulations. Exempt imports are E-marked packages or outer containers packed in or imported into another Member State of the European Economic Area (which will therefore have implemented Directives 75/106/EEC and 76/211/EEC) subject to conditions aiming to secure that this implementation remains effective; and providing the package is marked with the name and address of the packer/importer in the other Member State. This reflects the current position, set out in section 54(3) of the 1985 Act and is intended to allow for E-marked packages brought in from other Member States to be subject to enforcement by the competent departments in those Member States.

1.11 Regulation 3 (6) exempts from the scope of the Regulations frozen poultry and fresh vegetables that are subject to EC Regulations 1906/90 and 2200/96 respectively. (These EC Regulations already have legal force in the UK, and impose similar labelling and quantity control requirements to those imposed on other products by these Regulations.)

Regulation 4: Duty to comply with three packers' rules

1.12 This Regulation places a new duty on packers and importers to ensure that their packages have been made up in line with the requirements of the three packers' rules (see para. 12 of the Guidance Note). This effectively replaces the duty on packers or importers under section 47 of the 1985 Act to ensure that their packages pass the reference test, and the inadequate package offence in section 50(5) of the 1985 Act. The aim of bringing together in this way the three packers' rules, which form the basis of the average system - and the two Directives - is to make it clearer and simpler for packers or importers to understand their duties.

1.13 Compliance with the three packers' rules will where necessary be determined by appropriate tests including the reference test, but the duty of packers or importers is to pack to, or get sufficient evidence to show that the prepackages meet, the rules rather than to pass the test.

Regulation 5: Duty of packers and importers to mark packages

1.14 This Regulation places a duty on packers and importers to mark packages with specific information, comprising the nominal quantity of the packages and the name and address or identity mark of the packer, importer or person arranging for the packages to be made up or imported.

1.15 It should be noted that the nominal quantity to be marked on the packaging under Regulation 5(1)(a) is the total quantity contained. This does not prevent the marketing of packages as "quantity X for the price of quantity Y", but the declared contents must be the total contents.

1.16 Together with Regulation 8, the Regulation also specifies how that information, and the E-mark, where the package satisfies the requirements for E-marking and the packer or importer chooses to apply it, is to be displayed. This replaces the marking requirements in section 48 of the Act and Regulations 11 and 12 of the 1986 Regulations.

1.17 This Regulation does not apply to non E-marked packages containing milk sold in returnable containers, where such marking requirements would not be reasonable because of the nature of the container or to unwrapped bread or any non E-marked package containing a product listed in Schedule 7 in a quantity below the product's lower threshold. Modifications with similar effect are currently included in the 1986 Regulations.

1.18 The Regulation also includes an exemption from name and address labelling for packages sold or supplied to a consumer from the packer or importer's own premises or vehicle. Again this reflects a current exemption included in Schedule 3 of the 1986 Regulations.

1.19 There is no longer an exemption from labelling for returnable containers first marked with embossed or fired on markings before 1st January 1980, as it is now considered to be obsolete.

1.20 The Regulation also disapplies the requirement to mark the name and address of a packer or importer in the UK from cosmetic products where such a requirement already applies under the Cosmetic products (Safety) Regulations 2004.

Regulation 6: Duty of packers and importers to mark outer containers

1.21 Regulation 6 sets out duties on packers and importers to mark outer containers. This is intended to replace the existing, complex provisions in Regulation 25 of the 1986 Regulations with a more straightforward treatment. Broadly speaking, the information required to be marked on the packages must be reproduced on the outer container (unless the labels on the packages can be read through transparent packaging); and in addition, the number of packages contained must be identified.

Regulation 7: Liability for labelling packages and outer containers

1.22 Regulation 7 seeks to address the situation in which an indication of quantity placed on a package or outer container is subsequently replaced or supplemented. It applies all of the duties imposed by the Regulations to the person who provides the later indication, as if he were the original packer or importer.

Regulation 8: Specific Requirements as to quantity marking

1.23 This Regulation includes all the obligations on packers and importers of packages subject to these Regulations that are currently included in the Weights and Measures (Quantity Marking and Abbreviation of Units) Regulations 1987 (SI 1987/1538). It does not add to existing legal obligations, and is relocated here for the better convenience of packers and importers, avoiding the need to refer to a separate set of Regulations.

1.24 Packages subject to these Regulations are accordingly no longer subject to the Quantity Marking and Abbreviation of Units Regulations.

Regulation 9: Packers' and importers' duties as to equipment, checks and documentation

1.25 Regulation 9 sets out new duties on packers and importers as to the equipment they may use and the measurements or checks they must make and documentation they must keep. This replaces section 49 of the 1985 Act and Regulations 13-19 and Schedule 4 of the 1986 Regulations.

1.26 The new Regulations require packers to measure or check their packages using equipment that is suitable for the operation for which is being used. Any equipment that is used must also comply with any separate legal requirements under measuring instrument legislation that apply to it.

1.27 Where every package is measured, there is no requirement to keep records (but see para. 19 of the Guidance Notes). Where the packer chooses to check packages by sampling, the system of sampling and tests must be sufficiently rigorous to ensure that his packages are made up in line with the requirements of the three packers' rules. He must also make and keep records of the checks he has made for a year after the packages have left his possession, or for the shelf life of the product, whichever is the shorter.

1.28 An importer may either check his packages using suitable equipment, and keep records of the checks, or he may obtain before the packages leave his possession sufficient evidence to give reasonable grounds for believing that the packages have been packed in accordance with the three packers' rules and keep the evidence he has obtained.

Regulation 10: Enforcement by local weights and measures authorities

1.29 Regulation 10 places a duty on local weights and measures authorities to enforce the Regulations. It also provides that only those authorities may bring prosecutions for offences under the Regulations (except for the disclosure of information offence).

1.30 Proceedings must be instituted within 12 months of the offence being committed.

1.31 This Regulation also gives effect to Schedule 5, which provides local weights and measure authorities with powers to enforce the Regulations.

Regulation 11: Notices to local weights and measures authorities

1.32 Regulation 11 requires packers or importers of E-marked packages to give notice to the local weights and measures authority specifying certain information about the packages. This is to allow for appropriate enforcement to be carried out on E-marked packages even where they are not placed on the domestic market.

1.33 This Regulation replaces the requirements in Section 54(4), (5) and (6) of the 1985 Act.

Regulation 12: Instructions by inspectors

1.34 Regulation 12 gives inspectors the power to issue a notice giving instructions to packers or importers, where they have reasonable grounds for believing that they have failed to comply with the three packers' rules. These instructions may require packers or importers to keep specified packages until the end of the next working day at a specified place and at the disposal of the inspector and secondly where an inspector believes that a person has failed to perform any duty in relation to measuring or checking his packages. The notice may also contain any instructions that the inspector believes are appropriate with the intention of ensuring that the person does not fail to perform that duty again.

1.35 The Regulations also provide for an appeals procedure where a packer or importer objects to the instructions and make it an offence not to comply with a notice given under this Regulation.

1.36 This Regulation repeats provisions that were contained in section 63 of the 1985 Act.

Regulation 13: Offences relating to the making up and marking of packages, and record keeping

1.37 This Regulation makes it an offence to fail to comply with any of the duties set out in Regulations 4, 5, 6, 7, 8 or 9.

1.38 It also provides for offences in relation to both the alteration, with intent to deceive, of records or documents required under the Regulations or of making a false record or referring to a document known to be false.

Regulation 14: Offences relating to the Sale of Packages

1.39 This Regulation makes it an offence, as under the existing Regulations, to sell any package that the seller knows or has reasonable grounds for believing has a negative tolerable error of more than twice the level permitted by Schedule 4.

1.40 There is also a new offence of selling a package in circumstances in which the seller knows, or has reasonable ground to believe that it comes from a batch that has failed the reference test unless he can show that corrective action has been taken or the actual quantity of the package exceeded the nominal quantity.

Regulation 15: Offences Relating to E-marks

1.41 This Regulation creates a new offence of marking a package with an E-mark other than permitted by these Regulations.

1.42 It remains an offence to mark a package with a similar mark, intending to deceive, or for a person who is not the packer or importer to apply the E-mark.

Regulation 16: Disclosure of Information

1.43 It is an offence for an inspector (or accompanying person) to disclose information relating to trade secrets or secret manufacturing processes that he has obtained by virtue of the Regulations unless the disclosure is made in the performance of his duty as an inspector.

1.44 This Regulation contains a new provision permitting the disclosure of information where the person from whom it was obtained has consented to its disclosure or where it is disclosed more than 50 years after it was received. This change brings the Regulations into line with current good practice on disclosure of information held by public bodies.

Regulation 17: Corporate Offence Provisions

1.45 Regulation 17 provides that where an offence has been committed by a body corporate, and it is proved that it was committed with the consent of or was attributable to neglect by any director, manager or similar officer of the body corporate, they shall also be guilty of the offence and be liable to prosecution.

Regulation 18: Penalties for offences

1.46 This Regulation sets out the penalties for offences under the Regulations. The penalty for all offences, with the exception of those listed below, is, subject to summary conviction, a fine not exceeding level 5 on the standard scale.

1.47 For the offences relating to the alteration, with intent to deceive, of records or documents or of making a false record or knowingly referring to a false document, the penalty on summary conviction is a fine not exceeding level 5 on the standard scale or imprisonment for a term not exceeding 6 months or both.

1.48 The penalty for disclosure of information by an inspector (or accompanying person) is a fine not exceeding the statutory maximum and on conviction on indictment, imprisonment for a term not exceeding 2 years or to a fine or to both.

Regulation 19: Defences

1.49 This regulation provides defences against the offences in Regulations 13, 14 and 15.

1.50 It is a defence to prove that a person charged with an offence under Regulation 13(1) or 14(2) took all reasonable precautions and exercised all due diligence to avoid committing the offence.

1.51 It is a defence for a person charged with failing to comply with the packers' rules, to prove that the packages were tested when not in his possession and in relation to a nominal quantity that was not on the packages when they were in his possession.

1.52 It is also a defence for an importer to show that he obtained the required documents, took all reasonable steps to verify the information, had no reason to believe that the packages weren't packed in accordance with the three packers' rules and took all reasonable precautions to ensure that there was no reduction in their quantity while they were in his possession.

1.53 This Regulation also includes a new defence for products subject to desiccation. It is a defence to show that the packages were packed in accordance with the three packers' rules and that any deficiency is entirely due to the desiccation of the product in the packages after they were packed.

Regulation 20: Trade Descriptions Act

1.54 This Regulation provides that an indication of nominal quantity is not a trade description under the meaning of the Trade Descriptions Act.

Regulation 21: Transitional Provisions

1.55 This Regulation sets out transitional provisions. It provides that packages made up before the 1986 Regulations were revoked shall continue to be subject to those Regulations and that these Regulations shall not apply to such packages.

1.56 It also provides that packages that were subject to Part IV of the 1985 Act before 6th April shall be permitted to comply with the packing and marking requirements of those provisions until 6th April 2007 and packages with a nominal quantity greater than 10 kg or L that were permitted to be E-marked prior to 6th April 2006 shall be permitted to be E-marked until 6th April 2007.

1.57 It also sets out transitional arrangements for notices and instructions issued by inspectors under Part V of the 1985 Act and for the treatment of trade secrets obtained by virtue of Part V.

Schedule 1: Repeals, Revocations and Consequential Amendments

1.58 Schedule 1 sets out the repeals and consequential amendments to be made to existing legislation.

Schedule 2: The E-mark

1.59 Schedule 2 displays the mark that may be applied to certain packages or outer containers which meet the requirements of Regulation 5(3) and 6(3), respectively.

Schedule 3: The Reference Test

1.60 Schedule 3 sets out the reference test that is to be used for determining compliance with the three packers' rules. This does not differ in substance from the relevant parts of the 1986 Regulations, but is now set out so as to follow the text of the Directives closely.

Schedule 4: Tolerable Negative Errors

1.61 Schedule 4 sets out the values of the tolerable negative errors specified in Regulation 4.

Schedule 5: Powers of Inspectors and Local Weights and Measures Authorities

1.62 Schedule 5 provides powers for the inspectors and Local Weights And Measures Authorities that enforce the Regulations. These are the same as those set out in Schedule 8 to the 1985 Act.

Schedule 6: Application to bread: modifications of provisions and extension of scope

1.63 Schedule 6 modifies the average system in its application to unwrapped bread and bread made up in open packs. In particular it removes labelling requirements and places duties on the person baking or finishing the baking process rather than the packer in relation to the predetermined quantity to which the bread has been made up rather than to its nominal quantity.

1.64 The Schedule also provides that retailers who finish the baking process for part-baked bread may, by giving written notice to their local weights and measures authority, choose not to have the bread treated under the average system. It would then be subject to the minimum rules under Part IV of the Weights and Measures Act 1985, which would require the quantity to be at least that stated, but it would not be subject to the specific record keeping requirements of the average system.

1.65 In addition the chief inspector or weights and measures for each area has discretion to issue a notice to any packer of bread, which exempts him from the record keeping requirements. This is often referred to as the “small bakers’ exemption” and mirrors the existing provision in Schedule 3 of the 1986 Regulations.

Schedule 7: Exemptions from quantity marking

1.66 This Schedule allows certain products to remain exempt from the marking requirements in Regulation 5 where the quantity is less than a threshold quantity, even though the quantity is more than 5 g and so falls within the general scope of the Regulations. These products include biscuits, cocoa and chocolate products, and chocolate and sugar confectionery in a quantity less than 50 g; herbs and spices, potato crisps and snacks and single portion vending machine beverage packs and individual portions of food intended as a minor accompaniment to a meal or service in a quantity less than 25 g or ml; and sugar in a quantity less than 20 g.

Suitability of Measuring or Checking Equipment

1. The revised Regulations differ from the Weights and Measures (Packaged Goods) Regulations 1986 in that there is no equivalent to the detailed description of the type of equipment that is permitted to be used to make up and check pre-packages formerly contained in Schedule 4 to the 1986 Regulations. Instead all measurements and checks are required to be performed with equipment which is suitable for the purpose for which it is being used (i.e. measuring or checking that packages comply with the three packers' rules).
2. The determination of whether a particular instrument is suitable will depend on the circumstances of the case and the nominal quantity of the product packed. It will be essential for consideration to be taken of the scale interval which must be reasonable for the nominal quantity of the package filled. The size and capacity of the instrument must also bear a sensible relationship in respect of the scale interval to the quantity being measured.
3. As a general rule, equipment that enables the quantity to be determined to 0.2 TNE will be appropriate. Although the use of less sensitive equipment is not prohibited an allowance for the greater possible errors will require the quantity control system to have a higher target quantity or set point – this will result in requiring a give away to be made to ensure that the packages comply with the three rules.
4. Equipment which is subject to separate legal requirements under measuring instrument legislation must comply with any requirements that apply to it. Whenever appropriate the equipment should be stamped or otherwise certified before being brought into use for the first time. The use of unverified non automatic weighing instruments is not legal.
5. Types of equipment likely to be suitable for measuring or checking purposes may fall within the scope of the following legislation, but this list is not exhaustive:
 - The Non Automatic Weighing Instruments Regulations 2000 (SI 2000 no 3236)
 - The Non-automatic Weighing Machines Regulations 2000 (SI 2000 no 932)
 - The Weighing Equipment (Automatic Gravimetric Filling Instruments) Regulations 2000 (SI 2000 no 388)
 - The Weighing Equipment (Automatic Catchweighing Instruments) Regulations 2003 (SI 2003 no 2761)
 - The Measuring Container Bottles (EEC Requirements) Regulations 1977 (SI 1977 no 932) with an appropriate templet
 - When the Measuring Instruments Directive has been implemented, instruments meeting the requirements of the relevant Regulations

6. Unregulated instruments, including certain automatic weighing machines, templets and thermometers are and will remain legal to use for checking and measuring prepackages. These should however be able to demonstrate compliance with paragraph 2 above and should be capable of reliable, repeatable and consistent performance, and should not be unduly susceptible to environmental factors, e.g., temperature. It is recommended that all unregulated instruments should be checked (calibrated) for accuracy before, and during use, involving standards that are traceable to national or international standards. These checks can be done by the packer, or externally by, for example, an Inspector issuing a certificate under section 74 of the Weights and Measures Act or by a UKAS accredited calibration laboratory. ISO 9000 certificates do not guarantee such traceability.

7. Further advice on the use of checkweighers can be found in Appendix D to the Packers' Code. While the rules in Appendix D are no longer mandatory they describe control procedures that may be helpful for packers in determining the suitability of checkweighing machines and the rigorousness of checking systems.

8. Templets used with measuring container bottles may be graduated in millilitres or millimetres. Where in the latter unit of measurement, the template must be used with a conversion chart and the record of checks must show the quantity in volume (not millimeters) in order for the packer or importer to show that they have complied with their duties. Templets complying with the recommendations in Appendix E of the Packers' Code will be suitable.

Annex C

Quantity Control Systems

1. The Packers' Code provides advice and background material which may be helpful in designing or assessing quantity control systems. In particular, Annex C of the Code provides advice on control by sampling, and Annex D on control by measurement, Appendix F sets out an "off the peg" control system that can be adopted directly, and Appendix G provides a procedure for assessing an existing system. The advice and worked example below may also be found helpful.

Control by Sampling

2. Where the packing process variability (standard deviation) is always less than 0.5TNE of the product then the average requirement is the most critical packers' rule.

3. Where the variability exceeds 0.5 TNE then the target quantity always needs to exceed the nominal (labelled) quantity in order to meet all three packers' rules.

4. To take into account the variability of the process, the target quantity must be the greater of:

- the nominal quantity (Q_n),
- $Q_n - TNE + 2s$, (where s = standard deviation of process), or
- $Q_n - 2TNE + 3.72s$

5. Where the number of items sampled during a production period is less than 50, then a sampling allowance will need to be added to the target quantity in order to make the system as robust as the reference test in detecting deficiencies. A production period is taken as being the time taken to produce 10,000 packages, with a minimum of 1 hour and a maximum of 1 normal day or shift. The appropriate allowance can be found in Table C1 of the Packers' Code. An example on setting target quantities and action limits is provided below.

6. Other allowances may have to be made (e.g. to take into account volume changing with temperature). For further guidance on this issues see Appendix C of the Packers' Code.

Checkweighers

7. Set points need to be set to ensure that all three packers' rules are complied with continuously, and needs to take into account the zone of indecision and variability of the weight of packaging (tare).

8. Where the zone of indecision (ZoI) is greater than 0.25 TNE then the set point should be increased by $0.5ZoI - 0.125TNE$.

9. Where the tare variability (standard deviation) exceeds 0.1 TNE then a simple way to address this is to add an allowance of $0.85s$ on to the set point.

10. For further information on determining the zone of indecision and establishing appropriate set points see Appendix D of the Packers' Code.

An example on setting target quantities and action limits

SCENARIO

A packer produces 200 g bags of sweets; the variation due to the packing process is dependent on the size of sweet. The process variation, stated as a standard deviation, is either 4 g, 5 g or 6 g.

The packing line produces 4,000 bags an hour and the packer monitors the average weight of the product by taking samples of five bags from the line every 30 minutes. The average of each sample is calculated and used to determine when action is needed.

What should be the lowest target quantity the packer should aim for, and what should the minimum action limit (1 in 1,000) for the sample mean be, for each of the three processes?

CALCULATION

1. Lowest Target Quantity

1.1. Process variation

1.1.1. The average range or standard deviation can be used to consider this parameter. The standard deviation (SD) is more robust, as it is based on all the data available. In either case, the following assumes that the distribution of the contents of the packages is 'normal'. If this assumption is incorrect the variation from normality also has to be considered.

1.1.2. In the scenario the variability of the filling process is given as a standard deviation. In order to ensure all three packers' rules are met, the highest of the following has to be used to address this variability:

$$Q_n \qquad T1+2s \qquad T2+3.72s$$

where

- Q_n is the nominal (labelled) quantity
- s is the standard deviation of the filling process,
- $T1$ is $Q_n - 1 \text{ TNE}$
- $T2$ is $Q_n - 2 \text{ TNE}$
- TNE is the tolerable negative error for the nominal quantity¹.

WELMEC document 6.4² at paragraph E2.5 deals with this matter as above. It is treated differently in the Packers Code³ at paragraph C15, but the result is the same.

¹ as stated in the Schedule 4 of the Weights & Measures (Packaged Goods) Regulations 2006, or paragraph 2.4 of Annex I of Directive 76/211/EEC.

² WELMEC 6.4 Guidance on Controls by Competent Departments

³ The Code of Practical Guidance for Packers and Importers (Issue No 1), Dec1979 as editorially updated.

For the various process variations the results are:-

Process variation	Qn	T1+2s	T2+3.72s	Largest
4	200	199	196.88	200
5	200	201	200.6	201
6	200	203	204.32	204.32

As can be seen from this table that which of the packers' rules is critical depends on the variability of the filling process. In this exercise the critical rule is:-

For s=4 g the first rule, ensuring the average is correct,
 For s=5 g the second rule, ensuring that the number of packages having a greater negative error than the tolerable negative error⁴ is acceptable, and
 For s=6 g the third rule, ensuring that there are no packages with a negative error greater than twice the tolerable negative error⁵ produced.

1.1.3. The above 'largest' quantities would be acceptable as a target quantity if there were no other issues that needed addressing. The scenario gave information about the sampling plan the packer is using and so the adequacy of this needs to be considered.

1.2. Sampling Allowance

1.2.1. Generally the packer's sampling plan is considered to be equivalent to the reference test if at least 50 items are sampled during the time that 10,000 packs are filled (with a minimum time of 1 hour and a maximum time of 1 day or shift). See the Packers Code, paragraph C22, or WELMEC 6.4, paragraph E.3

1.2.2. The scenario is that the packing line produces 4,000 bags an hour and the packer monitors the average weight of the product by taking samples of five bags from the line every 30 minutes. The average of each sample is calculated and used to determine when action is needed.

From this information, the time taken to fill 10,000 packs, referred to as the Production Period, is equal to $10,000/4,000 \text{ hr} = 2.5 \text{ hr}$.

The number of samples (of size 5, i.e. $n = 5$) taken during this period, sampling every half hour, is $k = 2.5/0.5 = 5$.

Therefore the number of items sampled during the production period (time taken to produce 10,000 packs) is $kn = 5 \times 5 = 25$. As this is less than 50 a sampling allowance is needed to ensure that the packers system is as efficient as the reference test in detecting non compliance.

⁴ In the 1986 Regulations these were known as "non-standard" packages – where the content of a package is less than $Q_n - 1TNE$, i.e. below T1.

⁵ In the 1986 Regulations these were known as "inadequate" packages – where the content of a package is less than $Q_n - 2TNE$, i.e. below T2.

1.2.3. The appropriate allowance, which is used to enhance the target quantities established in 1.1.2 above, is obtained by looking up the tables in the Packers Code, Table C1, or WELMEC 6.4, Table E.3.

The allowances are based on 3 control system:-

- using Shewhart Control with Action Limit only (1 in 1,000),
- using Shewhart Control with Warning Limit (1 in 40) & Action Limit (1 in 1,000), and
- using Cusum control with $h=5$, $f=0.5$ (as per BS 5703)

The exercise indicates that only an Action Limit is used which is referred to as Procedure A in the tables.

1.2.4. Looking at $n=5$ and $k=5$ for procedure A gives a sampling allowance factor, $z = 0.20$. This factor is multiplied with the standard deviation of the packing process to produce an allowance, which is added to the targets determined in 1.1.2 above.

1.2.5. The minimum target quantity taking into account process variability and sampling becomes:

Process SD	Qn	T1+2s	T2+3.72s	Largest	zs=0.20s	Min Qt
4	200	199	196.88	200	0.8	200.8
5	200	201	200.6	201	1	202
6	200	203	204.32	204.32	1.2	205.52

1.3. Other Allowances

1.3.1. The scenario does not give any indications that other allowances are necessary but other issues that need to be considered include:-

- a 'wandering average',
- storage allowance, particularly for desiccating products,
- tare variability, where the quantity determination assumes a constant tare weight,
- temperature, if the product is filled hot or cold and the volume changes when determined at 20°C.

These are considered in the Packers Code in paragraphs C21 to C25 and WELMEC 6.4 in paragraphs E.5.1 to E.5.4.

2. **Action Limits**

1.4. The scenario asks for the 'minimum action limit (1 in 1,000) for the sample mean'. The distribution of the sample mean (of samples of size n) is related to the distribution of the individual items (the process variability).

1.5. If the process variability (standard deviation) is s
 and the number of items in a sample is n
 then the standard deviation of the distribution of the means,
 sometimes referred to as the standard error of the means, is s/\sqrt{n}

1.6. The action limit, with a chance of 1 in 1,000 of exceeding, as with the normal distribution comes at three times the standard error away from the target quantity. Only the lower action limit is needed for legal metrology, although upper limits may be set, for example for safety reasons (aerosols), or economic reasons (duty on alcohol) – but the corresponding limit must be no nearer the target quantity than the lower one.

So for legal metrology the Action Limit should be no lower than $Q_t - 3s/\sqrt{n}$
 (If there was a warning limit of 1 in 40 being used this would be at 2 times the standard error.).

An example is given in the Packers' Code at paragraph C34, it is also covered in WELMEC 6.4 at paragraph E.7.2.

Using the data from the exercise this gives:

Process SD	Qn	T1+2s	T2+3.72s	Largest	zs=0.20s	Min Qt	3s/√5	Action limit
4	200.00	199.00	196.88	200.00	0.80	200.80	5.37	195.4
5	200.00	201.00	200.60	201.00	1.00	202.00	6.71	195.3
6	200.00	203.00	204.32	204.32	1.20	205.52	8.05	197.5

RESULTS

Process Variation, s	Minimum Target Quantity (g)	Minimum Action Limit for the Mean (g)
4 g	200.8	195.4
5 g	202.0	195.3
6 g	205.5	197.5

[Note: The Packers' Code, at Paragraph C34, suggests using $1.38s_0$ to determine the Action Limit, this gives results about 0.2 g different to the above.]

Table showing broadly equivalent provisions in 1986 and 2006 Packaged Goods Regulations

Please note the equivalences shown in this table are only approximate and are provided to assist those familiar with the existing Regulations. They should not to be taken as meaning that the new provisions are exactly equivalent to the old.

Provision	Prior to 6 April 2006	W&M (Packaged Goods) Regulations 2006	Comments
<u>Interpretation</u>			
Definitions	Weights and Measures Act 1985 (WMA) section 68 and Weights and Measures (Packaged Goods) Regulations 1986 (PGR) Regulation 2	Regulation 2	
<u>Scope</u>			
Prescribed goods	Regulation 3 & schedule 1	None	Any goods made up in a package without the purchaser being present and in which the quantity can't be altered without the package being opened (or perceptibly modified) in a constant nominal quantity of between 5 g or ml and 25 kg or L will be subject to the Regulations, unless they are specifically exempt.
Quantity limits	PGR Schedule 1	Regulation 3 & schedule 7	General 5 g to 25 kg and 5 ml to 25 L, only nine sets of products with a higher minimum limit.
Exceptions	PGR Regulation 5(1) & schedule 2	Regulation 3(4) to 3(6)	
Modifications	PGR Regulation 5(2) & 5(3) and schedule 3	Regulation 3(4) to 3(6)	
<u>Quantity requirements – Reference test, average and number of non-standards.</u>			
Pass the reference test	WMA section 47	Regulation 4 (2)	As reformulated, duty on packer/importer is to comply with the three packers' rules, not to pass a reference test as such.
No 'Inadequate packages'	WMA section 50 (5)	Regulation 4 (1)	2006 Regulations make it a requirement not to make up prepackages that have a negative error greater than T2 (twice the TNE).

Provision	Prior to 6 April 2006	W&M (Packaged Goods) Regulations 2006	Comments
Responsibilities of labeller	None	Regulation 7	A labeller (who is not the packer or importer) has the same duties as a packer.
<u>Labelling requirements</u>			
Quantity & name and address	WMA section 48 PGR Regulations 10 & 11	Regulation 5	Address to be in the UK, except for cosmetics products. New requirements are for markings to be 'visible in normal conditions of presentation'
Outer containers	PGR Regulation 25 & schedule 6 part I	Regulation 6	
Specific requirements as to marking	PGR Regulations 10 & 11 and the Weights and Measures (Quantity Marking and Abbreviations of Units) Regulations 1987	Regulation 8	Generally, liquid products to be marked with volume, other products with weight.
<u>Equipment, checks and documentation</u>			
Use suitable prescribed equipment	WMA section 49 PGR Regulation 13 & 19 and schedule 4 and paragraphs 5, 7, and 8 of Appendix E to the Packers' Code.	Regulation 9	2006 Regulations do not prescribe particular equipment, but require all equipment used to be suitable for the application. All other legal requirements applying to the type of instrument chosen must also be met.
Packing to the 'minimum'	WMA 47(2) and 49(1)(a)	Regulation 9(1)(a)	As this ensures the quantity, no quantity check records are needed.
Checks when packing to the 'average'	WMA 49(1)(b) PGR Regulations 14 and 15 and paragraph 9 and 11 of Annex 1 to Chapter 6 of the Packers' Code.	Regulation 9(1)(b)	Checks need to be 'sufficiently rigorous to ensure that packages' meet the three packers' rules. Records must now include corrections and adjustments made. Records to be kept for the shelf life of the product, or one year, which ever occurs first.
Importers quantity checks	WMA 49(2)(a) and paragraphs 8 and 36 of Appendix C to the Packers' Code	Regulation 9(3)(a)	

Provision	Prior to 6 April 2006	W&M (Packaged Goods) Regulations 2006	Comments
Importers documentation	WMA 49(2)(b) PGR Regulation 16 to 18 and Code paragraph 69	Regulation 9(3)(b)	Documentation must give 'sufficient evidence to give reasonable grounds for believing that the packages have been packed' to meet the three packers' rules.
<u>'e' marked packages</u>			
Notifications from importers & exporters of 'e' marked packages	WMA section 54	Regulation 11	Only a one-off notification is required for each packing or importation site.
'e' labelling requirements	PGR Regulations 6 and 12	Regulations 5(3) & 6(3)	
'e' mark	PGR Regulation 12	Schedule 2	
<u>Desiccating products</u>			
	PGR Regulation 26 & schedule 6 part II	Regulation 19(3)	Product must comply with the three packers' rules at time of packing. If a deficiency is subsequently discovered, it will be a defence for the packer to prove that the deficiency is entirely due to desiccation in the package after it was made up.
<u>Bread – including unwrapped bread and bread in open packets</u>			
	PGR Part I of Schedule 3 and schedule 7	Regulation 3(2), 3(3) & schedule 6	
<u>Enforcement</u>			
Duty to enforce	WMA section 52	Regulation 10	
Powers	WMA section 53 and Schedule 8	Schedule 5	
Instructions by Inspectors	WMA section 63	Regulation 12	
Reference test	PGR Schedule 5	Schedule 3	Simplified to reflect Directive, no requirement for preliminary tests for measuring container bottles.
Tolerable negative errors	PGR Regulation 23	Schedule 4	
Prosecution of offences	WMA section 83	Regulation 10	Time limit now one year from date of offence
Offences by corporations	WMA section 82	Regulation 17	
Penalties	WMA section 84	Regulation 18	
<u>Offences</u>			

Provision	Prior to 6 April 2006	W&M (Packaged Goods) Regulations 2006	Comments
Making up, marking & records	WMA section 50	Regulation 13	
Sale of inadequate packages	WMA section 50(5) & 50(6)	Regulation 14(1)	
Sale of packages from 'failed' batch	none	Regulation 14(2)	
Relating to 'e' marked packages	WMA section 54	Regulation 15	
Disclosure of information	WMA section 64	Regulation 16	
<u>Defences</u>			
	WMA section 51	Regulation 19	