

3-year report from the UK Competent Authorities on experiences arising from the implementation of Directive 98/81/EC, which amended Directive 90/219/EEC

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To the European Commission

3-year report from the UK Competent Authorities on experiences arising from the implementation of Directive 98/81/EC, which amended Directive 90/219/EEC

1 The attached report summarises the UK's experiences following the implementation of Directive 98/81/EC, which amended Directive 90/219/EEC. Article 18(2) of Directive 98/81/EC, requires that Member States shall, every three years, send to the Commission a summary report of their experiences with the Directive. This report fulfils that requirement, and covers the 3 years up to June 2006. The Regulations, implementing the Directive in the UK are:

- for Great Britain (GB - England, Wales and Scotland) the Genetically Modified Organisms (Contained Use) Regulations 2000 (S.I. 2000/2831) which came into force on 15 November 2000;
- in Northern Ireland the Genetically Modified Organisms (Contained Use) Regulations (Northern Ireland) 2001 which came into force on 25 September 2001; and
- for Gibraltar - the Public Health (Genetically Modified Organisms (Contained Use)) Regulations 2001, which came into force on 26 April 2001 (although currently there are no GMO contained use activities in Gibraltar).

2 The Regulations in GB have subsequently been amended by the GMO (Contained Use) (Amendment) Regulations 2002 and the GMO (Contained Use) (Amendment) Regulations 2005. The 2002 regulations gave power to the Secretary of State to exclude information from the public register, which would be contrary to the interests of national security. The 2005 regulations were required to: meet legal drafting improvements identified by GB's Joint Committee on Statutory Instruments; include a provision on transboundary movements as required by EC law; and to align the disclosure of information provisions with current legislation. In addition the regional versions of the public register were removed, the register has now been put on the HSE website <http://www.hse.gov.uk/biosafety/gmo/publicregister.htm> and some of the containment measures set out in Schedule 8 were amended to provide greater clarity. Rob Watt, UKRep for the Environment wrote to you summarising these changes and sent you a copy of the Regulations on 4 April 2006. Northern Ireland will shortly be introducing similar regulations to GB's 2005 regulations.

3 The Directive has the facility for exempting GMMs from the scope of the Directive that have established their safety for human health and the environment. However to date no GMMs have been taken through this procedure. If this procedure was further developed and taken forward it would reduce the regulatory burden on the GM industry by removing the need to conduct risk assessments by using specified containment measures etc when working with the designated GMMs. This measure would be proportionate to the risks presented and would also help in promoting biotechnology within Europe. UK stakeholders have identified this as a regulatory simplification measure. **We would ask the Commission to investigate this further.**

4 The report has been structured following the headings suggested by the Commission. Further details are available on request from the contact below.

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3 - YEAR SUMMARY REPORT

From the UK Competent Authorities on experiences arising from the implementation of Directive 98/81/EC, amending Directive 90/219/EEC.

An overview of activities and installations (particularly new ones and those involving GMOs as well as GMMs)

1 In total, Great Britain has 523 notified centres, covering 1312 premises (such as a University Department, or a site for a major pharmaceutical company). During the 3-year period covered by this report, 80 new centres opened of which 1 has already closed. Work being carried out at these centres has included (with many centres carrying out more than one type of activity):

- work with GM animals or plants
- gene therapy including trials
- use of recombinant vaccines
- immunotherapy
- other therapies
- bacteriology
- virology
- mycology
- parasitology microbiology research
- waste disposal (incinerators)
- notification only through use of modified cell lines
- storage/distribution/display
- assorted others

2 Northern Ireland has a total of 9 notified GM centres. Three new centres opened during the reporting period. Two of these carry out work at class one, and the third and newest centre is a class 2 centre involved in a multi-centre clinical trial.

3 In Great Britain, a total of 419 new activities were notified to the Competent Authority¹ for the period 1/4/2003-31/3/2006. Of these 4 were at Class 4, 38 at Class 3, and 377 at Class 2. There were two new activities at Class 2 notified to the Northern Ireland Competent Authority during the reporting period.

4 It should be noted that in the UK, work involving GM animals or plants is only notifiable under the Contained Use Regulations if it involves a risk to human health. Consequently there are very few notifications of this type of work (which is not covered by the Directive) and none in this three year period.

Risk assessment and classification of contained uses (including effectiveness of the risk assessment guidelines)

5 Risk assessment and subsequent classification of activities are seen as the pivotal provisions of the Directive, and consequently these areas have been the focus of interest for the Competent Authority (CA). Considerable amounts of scientific and technical guidance on risk assessments have been published by the Competent

¹ The competent Authority is made up of the Health & Safety Executive (HSE), Department of Environment food and rural affairs and the Scottish executive who are involved in the scrutiny of notifications. HSE receive all the notification forms and will circulate to the others as necessary.

Authority and are available on the internet on the Health and Safety Executive's (HSE) Website-

<http://www.hse.gov.uk/biosafety/gmo/acgm/acgmcomp/index.htm>

6 To reflect current scientific thinking and following advice from the Scientific Advisory Committee on Genetic Modification (SACGM) the guidance is being amended and a revised version will be published in the HSE website in early 2007.

7 Specialist inspectors enforcing the Regulations invest a considerable amount of time giving talks and workshops, with risk assessment being one of the main topics covered. Furthermore, scrutiny of the risk assessments forms a key part of any inspections carried out.

8 The quality of risk assessments made as part of notifications to the Competent Authority varies from centre to centre, but does appear to be improving. The most common problems encountered include:

- poor definition of scope;
- lack of detail;
- lack of justification of statements made in the assessment;
- inadequate environmental assessment.

Notification and approval systems (and relevant charges)

9 The CA operates a notification and approval system under the provisions of the Directive. The system involves the charging of fees for premises and individual activity notifications. Details of the current charging scheme for the UK (Great Britain & Northern Ireland) are outlined below:

Subject	Fee (GB)	Fee (Northern Ireland)	Notification period
First use of premises: class 1, non-harmful GMMs	£465	£415	None. The notifier may begin work as soon as the CA acknowledges receipt of the notification AND any requirements relating to activity notification have been met.
First use of premises where CU1 is accompanied by a class 2, 3, 4 or harmful non-GMMs activity notification	None	None	None. The premises may begin work as soon as the HSE acknowledges receipt of the notification BUT the activities notification period still applies.
First class 2 activity	£929	£829	45 days from date of acknowledgement, or sooner if CA agrees
Subsequent class 2 activity	£929	£829	None, The premises may begin work as soon as the CA acknowledges receipt of the notification
First class 3 activity	£1007	£899	The CA must issue a Consent (or a reason for refusal) within 90 days of acknowledgement. A consent cannot be issued in less than 30 days, as the public has a right to make representation up to 30 days.
Subsequent class 3 activity	£1007	£899	The CA must issue a Consent (or a reason for refusal) within 45 days of

			acknowledgement. A consent cannot be issued in less than 30 days, as the public has a right to make representation up to 30 days.
First class 4 activity	£1161	£1037	The CA must issue a Consent (or a reason for refusal) within 90 days of acknowledgement. A consent cannot be issued in less than 30 days, as the public has a right to make representation up to 30 days.
Subsequent class 4 activity	£1161	£1037	The CA must issue a Consent (or a reason for refusal) within 45 days of acknowledgement. A consent cannot be issued in less than 30 days, as the public has a right to make representation up to 30 days.
First or subsequent harmful non-GMM activity i.e. transgenic	£929	£829	45 days from date of acknowledgement, or sooner if CA agrees. NB for non-GMMs, “harmful” refers only to human harm. There is no notification risks, although a risk assessment must be done.

10 Notifications are scrutinised by technical assessors in the CA and over 90% of notifications are processed within the statutory timescales established in the Directive.

11 One area of difficulty encountered in the notification system relates to the degree of flexibility that is allowed and encouraged. The UK system recognises that research projects are likely to change and evolve, and users are encouraged to notify connected programmes of work as a single notification. To ensure that the work is fully notified, they are encouraged to anticipate where the work is likely to lead, and make an assessment based on the “worst case scenario”. When changes to the notified programme are made, users are asked to notify “significant changes” to the CA. The issue of what constitutes a “significant change” is the subject of a lot of discussion, and can lead to variability in interpretation between centres. Guidance has been issued on significant changes, and training courses for Biological Safety Officers, took place early in 2004.

12 For GB details of the notifications received under the Genetically Modified Organisms (Contained Use) Regulations 2000 for the period are given in the table below, and are broken down into premises and activity notifications. There was one derogation In Northern Ireland over the 3 year period with regard to the positioning of an autoclave

Year	Premises		Activities							Significant changes	Derogations
	Class1	Class 2/3/4	Class 2 first use	Class 2 subsequent	Class 3 first use	Class 3 subsequent	Class 4 first use	Class 4 subsequent use			
03-04	20	7	21	129	5	13		0	8	4	
04-05	23	1	7	106	3	11	2	1	7	3	
05-06	24	5	15	99	0	6	0	1	6	0 Plus 32 Under The Transitional Arrangements ²	

Accidents

13 From 1/1/04 to 30/6/2006 four accidents were notified in GB under the Contained Use Regulations. [Details of accidents up to 2003 were sent with the last 3 yearly report]. Reports of these accidents were sent through to the European Commission. There have been no accidents notified in Northern Ireland in this period.

- Needlestick injury – vaccinia virus (notified May 2004)
- Failure of syringe – vaccinia virus Western Reserve (December 2005)
- Failure of incubator – M.Tuberculosis (June 2006)
- Failure of silicone tubing – E Coli (June 2006).

Inspection & enforcement issues (including requests by CA for assessments of class 1 Contained Uses)

14 Great Britain has a dedicated team of specialist inspectors who enforce the Genetically Modified Organisms (Contained Use) Regulations 2000, which implement the Directive. A number of new inspectors have been recruited, and there are now 12 inspectors covering GM contained use (and wild-type dangerous pathogens) activities.

15 In Northern Ireland, the parallel Regulations are enforced in the small number of GM centres by an inspector who has ready access to and frequent contact with GB inspectors.

16 Inspections are prioritised using a rating system, which takes into account a number of criteria including:

- classification of the work;
- confidence in the management systems;
- time since the last inspection;
- issues arising from notification.

17 Premises only working with class 1 GM micro-organisms are inspected less frequently than those at the higher classes, and inspections concentrate on an evaluation of the risk assessments carried out, including the correctness of the final classification.

² As a result of changes to the containment measures from the 2005 regulations some organisations had to apply for a derogation to continue with the current activity. The derogation fee was waived when the application was made within the first 2 months of the transitional period.

18 Inspectors provide advice on risk assessment and control measures, including technical advice on the safety of cloning strategies.

19 The most frequently encountered problem tends to be insufficient or inappropriate risk assessments.

20 A range of enforcement options are open to inspectors to ensure that notifiers comply with the legislation. These include:

- providing written advice and requests for improvement in certain areas;
- issuing of statutory Improvement Notices, requiring notifiers to remedy contraventions in legislation within an agreed time period;
- issuing Prohibition Notices requiring the immediate cessation of work where it is considered by the inspector that it poses an imminent risk to human health;
- withdrawal of consent to carry out GM work;
- prosecution.

21 In GB & Northern Ireland during the period covered by this report, no enforcement action had to be taken.

Problems with interpretation of the provisions (conflict in defining work with respect to the Contained Use and Deliberate Release Directives)

22 There are a number of areas where there have been problems in interpreting the provisions of the Contained Use Directive (98/81/EC), however the major difficulties have come about with the emergence of clinical applications. The classification of clinical applications under that Directive requires users to identify the appropriate control measures from the containment tables, and use these to establish the class of the activity. The four tables cover laboratory, glasshouse, animal house and "other"; however, none describe measures typically encountered in a clinical setting. The "other activities" table describes large-scale industrial containment, and is not appropriate to cover clinical working practices. This has caused difficulty for users in the UK, requiring additional guidance to be produced to aid interpretation.

23 To help try and iron out some of these problems, guidance on the use of all GMMs in a clinical setting will be issued by HSE in November 2006. This guidance has gone through a public consultation process, and will be available on the HSE website.

24 The specific difficulties associated with clinical trials are detailed under the heading below.

Clinical trials using the provisions of the Directive

25 There has been a large increase in the numbers of clinical trials being carried out under the Contained Use Regulations. The bulk of these have involved gene therapy, in most cases utilising disabled viral vectors. Many of the activities are classified as class 1, and are therefore not notified to the CA.

26 A number of recent trials have been notified as class 2 activities, and as described above, have caused some difficulty in classification and assignment of containment measures.

27 Other clinical applications have centred on the development of GM vaccines. These have included both viral and bacterial vaccines. There have been issues raised over the borderline between the Contained Use and the Deliberate Release Directives, particularly with the development of vaccines based on enteric pathogens. There have been several applications for consents to release genetically modified organisms as part of vaccine trials, including *S. typhi*, and *E. coli* based vaccines.

28 The borderline between the Contained Use Directive and the Deliberate Release Directive (2001/18/EC) is not clear e.g. some clinical trials with GM vaccines are carried out under the provisions of the Contained Use Directive, whilst others are carried out under the Deliberate Release Directive. In the UK, the demarcation between the two Directives has tended to be based on the potential for shedding of the bacterial vaccines in faeces. Biological containment is factored into the decision, however where significant shedding is likely to occur the Deliberate Release route is generally taken. The guidance to be published by HSE on GMMs in clinical settings in November 2006 will help stakeholders in deciding which regulatory route is most appropriate for their trial.

29 The status of DNA vaccination has attracted a lot of queries from users who are not sure whether it is, or should be, covered by the Contained Use Regulations. The current UK position is that this work is outside the scope of the Directive, and therefore not covered. Current developments utilising 'siRNA' are again leading to questions over legal status and guidance from the Commission would be helpful.

Public consultation and information

30 Public consultation has been carried out on all proposed changes to the UK's GMO (Contained Use) Regulations. For the GMO (Contained Use) (Amendment) Regulations 2005 all GM centres were sent a copy of the consultation document. In addition the CD was published on the web and details of its publication appeared in the scientific journals. There was a total of 27 substantive responses to this exercise. Guidance to explain and set out the changes required by these amendments was posted on the HSE website and publicised through a press release. This additional guidance complimented the existing guidance on the regulatory system, which is available on the HSE Website. As mentioned in paras 6 & 7 extensive scientific and technical guidance on GM contained use activities is available as a priced publication, or free through the Internet.

31 Details of notifications (with the exception of those withheld for reasons of national security) are placed on a public register. The public register is held at the HSE Headquarter offices in Bootle and in London. Copies of the entries relating to Scotland are held at the HSE office in Edinburgh and for Wales in the HSE office in Cardiff. The register is open to members of the public to come in and browse. Since Autumn 2005 a copy of the public register has been placed on HSE's website allowing fuller public access to information on the notifications.

Accident and emergency plans

32 Emergency plans are required for any work where there is an identified serious off-site risk to people or the environment. Only a small number of sites in GB have been undertaking work that falls into this category, (there are none in Northern Ireland) and emergency plans have been produced.

33 Plans for dealing with accidents are required for all premises, for example, how to deal with an accidental spillage or exposure that may lead to infection. The level of detail required increases as the class of activity increases.

Protection of Confidential Information

34 The GMO (Contained Use)(Amendment) Regulations 2005 altered the disclosure of information provisions so that they align with the Environmental Information Regulations (EIR) 2004 and the equivalent Scottish regulations (which implement Directive 2003/4/EC). Under EIR 2004 the decision on whether there are any grounds to refuse disclosure is made at the time a disclosure request is received from a member of the public. However, because the CA will proactively make notification information available to the public by putting it on the Public Register, it will be necessary for that decision to be made on receipt of the notification in so far as the public register is concerned. When a request for information is received HSE will have to decide whether that information is covered by any of the exceptions in EIR 2004. In making this decision HSE will be obliged to weigh up whether the public interest in maintaining the exception outweighs the public information in disclosing this information. In order to help guidance was issued to notifiers asking them to indicate whether they consider that any information supplied should be kept confidential under the provisions of EIR 2004. It will then be possible for HSE to make a decision which takes into account the notifier's view. Notification forms have been designed to separate out confidential information from information that will be placed on a public register.

Waste disposal

35 The appropriate treatment of waste has been given a high profile by the UK Competent Authorities. Regulations that transposed Directive 98/81/EC require that all waste, including waste from Class 1 activities, is "inactivated by validated means" prior to discharge. Considerable amounts of guidance have been produced on this subject, and the level of compliance forms an important part of the inspection programme.

36 Autoclaving remains the most popular choice, however, there has been an increase in the number of incinerators registered to deal with waste containing GMMs. These are primarily used for class 1 waste, for example, in animal bedding or clinical waste from gene therapy trials.