

Environmental Permitting Regulations (England and Wales) 2010

enhancing... improving... cleaning... restoring...
changing... tackling... protecting... reducing...
create a better place... influencing... inspiring...
advising... managing... adapting...

Regulatory Guidance Note, RGN 9

Showing that land and groundwater are protected at:

- installations
- waste facilities
- mining waste operations
- non-nuclear radioactive substances facilities and mobile apparatus

Record of changes

Version	Date	Change
1.0	March 2008	Issued for launch of EPR
Draft	January 2010	Incorporating landfills, mining waste, waste deposits for recovery and radioactive substances activities. Issued for informal consultation
2.0	April 2010	Minor amendments after considering comments.

Published by:

Environment Agency
Rio House
Waterside Drive, Aztec West
Almondsbury, Bristol BS32 4UD
Tel: 0870 8506506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

© Environment Agency

All rights reserved. This document may be reproduced with prior permission of the Environment Agency.

Summary

This is our high level guidance on how land and groundwater should be protected at facilities where this is required, i.e. not at stand-alone water discharge or groundwater activities or for mobile plant.

We expect a 'lifetime approach' to the protection of land and groundwater. This means preventing pollution, rectifying any problems at the time and keeping adequate records as an integral part of management systems - so evidence is ready for surrender of the permit.

The legal test for surrender is – 'that the necessary measures have been taken –

- (a) to **avoid a pollution risk** resulting from the operation of the regulated facility; and
- (b) to return the site of the regulated facility to a **satisfactory state**, having regard to the state of the site before the facility was put into operation.'

Therefore, apart from in exceptional circumstances, we require removal of any contamination to ensure there is **no deterioration** in the land or groundwater caused by the operation of the activity.

We have four tiers of surrender for non-radioactive substances facilities, according to risk:

Notification – not covered here. For standalone water discharge activities, groundwater activities and mobile plant.

Basic surrender - where activities are inherently low risk, i.e. land and groundwater should not be at risk. No report is required at surrender. Some mining waste facilities and waste deposits for recovery may qualify for this route.

Low risk surrender – where activities could pollute land or groundwater but the operator can show through waste acceptance records (where applicable) and pollution control measures that the legal test has been met. A report is required but not involving intrusive monitoring data. All the non-radioactive substances facilities covered here may qualify, depending on circumstances.

Full surrender – a detailed report is required, using monitoring data:

- a **surrender site condition report** for waste facilities and installations to show satisfactory state
- a **completion report** for mining waste facilities and landfills to show the waste deposited will not cause an unacceptable risk of pollution or harm to human health or the environment.

Applicants proposing surrender of **non-nuclear radioactive substances facilities and mobile apparatus** will need to show that there is no significant risk to people or the environment.

Summary of surrender routes for non-RSR¹ facilities

Facility	Basic surrender (without report) for some standard permits	Waste acceptance records showing low risk	Waste records and pollution control measures in WMP ² show satisfactory state	Closure report, after care period & then meet risk-based completion criteria	Site condition report with or without intrusive monitoring (low risk surrender)
Landfills		✓	or ³	✓	✓
Other installations					✓
Waste deposited for recovery	✓	or ³	✓	or ³	✓
Other waste facilities					✓
Mining waste operations	✓	or ³	✓	or ³	✓

1. Radioactive substances regulation
2. Waste Management Plan
3. According to risk.

Contents

1.	INTRODUCTION	6
2.	THE LIFETIME APPROACH AND SURRENDER	7
	The lifetime approach: prevent, rectify and record	7
	The surrender test	7
	How it should be done	7
	At surrender	9
	Basic surrender	9
	Low risk surrender	10
3.	LAND NOT USED FOR PERMANENT DEPOSITS OF WASTE	12
	Site condition reports	12
	Surrender of permits	13
4.	WASTE DEPOSITS AT LANDFILLS	14
	Existing and new landfills	14
	Landfills that stopped taking waste between 16 July 2001 – 16 July 2009	14
	Landfills that stopped taking waste before 16 July 2001	15
	Landfills where all the waste has subsequently been removed	15
5.	WASTE DEPOSITED FOR RECOVERY	16
6.	LAND AT MINING WASTE OPERATIONS	17
	Basic surrender	17
	Using the waste management plan	18
	Using a closure plan and completion criteria	18
	Mining waste operations which become landfills	19
7.	NON-NUCLEAR RADIOACTIVE SUBSTANCES FACILITIES	20

Appendix A:

Arrangements for Pollution Prevention and Control and Waste Management Licences which became environmental permits

1. INTRODUCTION

- 1.1 Regulatory guidance notes set out our approach to implementing certain aspects of the Regulations. They are primarily aimed at our own staff but we make them widely available so people can see our views. They sit below Government guidance, notably Defra and Welsh Assembly Government's Environmental Permitting Core Guidance ('the Core Guidance').
- 1.2 This note concerns installations, waste facilities, mining waste operations, non-nuclear radioactive substances facilities and mobile radioactive apparatus¹. The operator of these facilities must show they have avoided pollution risk through the life of the permit and left their site in a satisfactory state before they can surrender their permit.
- 1.3 This guidance is not relevant to:
- mobile plant (we rely on permit conditions to protect land);
 - standalone water discharge and groundwater activities (surrender is by notification);
 - radioactive substances activities at nuclear licensed sites, as protection is provided through the nuclear licence;
 - Part B installations (except to the extent they relate to a waste operation) we regulation under a direction.
- 1.4 Defra and the Welsh Assembly Government have provided guidance on surrender requirements. This can be found in para's 6.42 to 6.46 and 7.18 to 7.34 of the Core guidance.

¹ Because these permits relate to specific sites.

2. THE LIFETIME APPROACH AND SURRENDER

The lifetime approach: prevent, rectify and record

- 2.1 We require land and groundwater to be protected at all times through the life of a permit. Operators should prevent pollution, clean up any releases at the time and keep good records to show no deterioration. Our general guidance *How to Comply with your Environmental Permit* explains how. If it is not sustainable or practical to remove contamination altogether, then it should be removed as far as practicable.

The surrender test

- 2.2 The test for the surrender of permits for installations, waste facilities, mining waste operations and non-nuclear radioactive substances facilities is given in paragraph 14 of Schedule 5 to the Regulations:

The regulator must accept an application to surrender an environmental permit in whole or in part under regulation 25(2) if it is satisfied that the necessary measures have been taken –

- (c) to avoid a pollution risk resulting from the operation of the regulated facility; and*
- (d) to return the site of the regulated facility to a satisfactory state, having regard to the state of the site before the facility was put into operation.*

How it should be done

- 2.3 The operator must have a management system that provides adequate records of how the land and groundwater have been protected from the date the permit was issued (or when operations started), until the end of operations under the permit. These records will form the basis of a surrender application. Our requirements are set out in guidance² and as conditions (or rules) in recent permits.
- 2.4 Our general guidance on *How to Comply with your Environmental Permit* and specific guidance on *Regulating radioactive substances activities at non-nuclear sites*, (Regulatory Guidance RSR 3), explain what we expect from a management system. This includes: records of the design, construction, inspection, monitoring, maintenance and failure records for pollution prevention measures, such as surfacing and drainage. The operator will also need to record spills and incidents, what they did to

² *H5 Guidance for Applicants: Site condition report – guidance and templates*

investigate and make good those incidents and any action taken when one of our officers notes any relevant non-conformances or failures.

- 2.5 Our modern permit conditions (and rules for standard permits) set out requirements covering:
- management systems;
 - accident management;
 - control of emissions with and without emission limits (ie fugitives); and
 - record keeping.
- 2.6 We do not require the operator to keep all the information in one place but it must be readily available to us. The operator might wish to organise this through hard copy files or, for example, hyperlinked documents which sit elsewhere in their information system. We recommend operators keep this information in a format suitable to support making the surrender application, eg for a site condition report. To ensure surrender is easy we would recommend that you use our templates (eg site condition report (SCR) template³), updating it periodically throughout the lifetime of your operation.
- 2.7 Our compliance activities will check that appropriate protection measures are in place for land and groundwater, that incidents are dealt with appropriately and ensuring that adequate records are being kept.
- 2.8 Where background contamination exists and there is a significant risk of adding to that, we usually impose a separate permit condition requiring monitoring of soil and/or groundwater.
- 2.9 In applying this approach:
- we take a proportionate approach where not limited by prescriptions of Directives;
 - we apply the requirements to all of the land (that is the ‘foot print’ of the facility) on which activities take place. (See Core guidance para’s 7.23 – 7.25 for the approach and RGN 2 *Understanding the meaning of regulated facility* for more information on the extent of each type of regulated facility);
 - avoiding pollution risk includes removal of any residual risks arising from the operation, such as tanks containing raw materials;
 - we hold the operator responsible for any contamination or other residual risks on the site unless we are convinced that the operator cannot reasonably be held responsible for it.

³ H5 Site condition report template.

At surrender

- 2.10 When it comes to assessing deterioration, there are some exclusions in Article 6.3 of the Groundwater Directive 2006 (for example, de minimis inputs to groundwater). However, the Article 6.3(e)(ii) disproportionate cost is only available for ground contamination preceding the initial reference point (generally when the permit was issued). It cannot be used to avoid cleaning up subsequent releases.
- 2.11 For installations and waste facilities we generally require a site condition report drawing on the management records – see section 3.
- 2.12 For landfills, waste deposited as a recovery operation and mining waste operations we accept that the waste cannot be removed – see sections 4, 5 and 6. Figure 1 shows how our different approaches relate.

Basic surrender

- 2.13 We are identifying specific types of activity where it is clear there should be no risk to land if they meet the conditions/rules in the permit. Currently, this is limited to:

Operators holding these standard permits for waste deposited for recovery (Section 5):

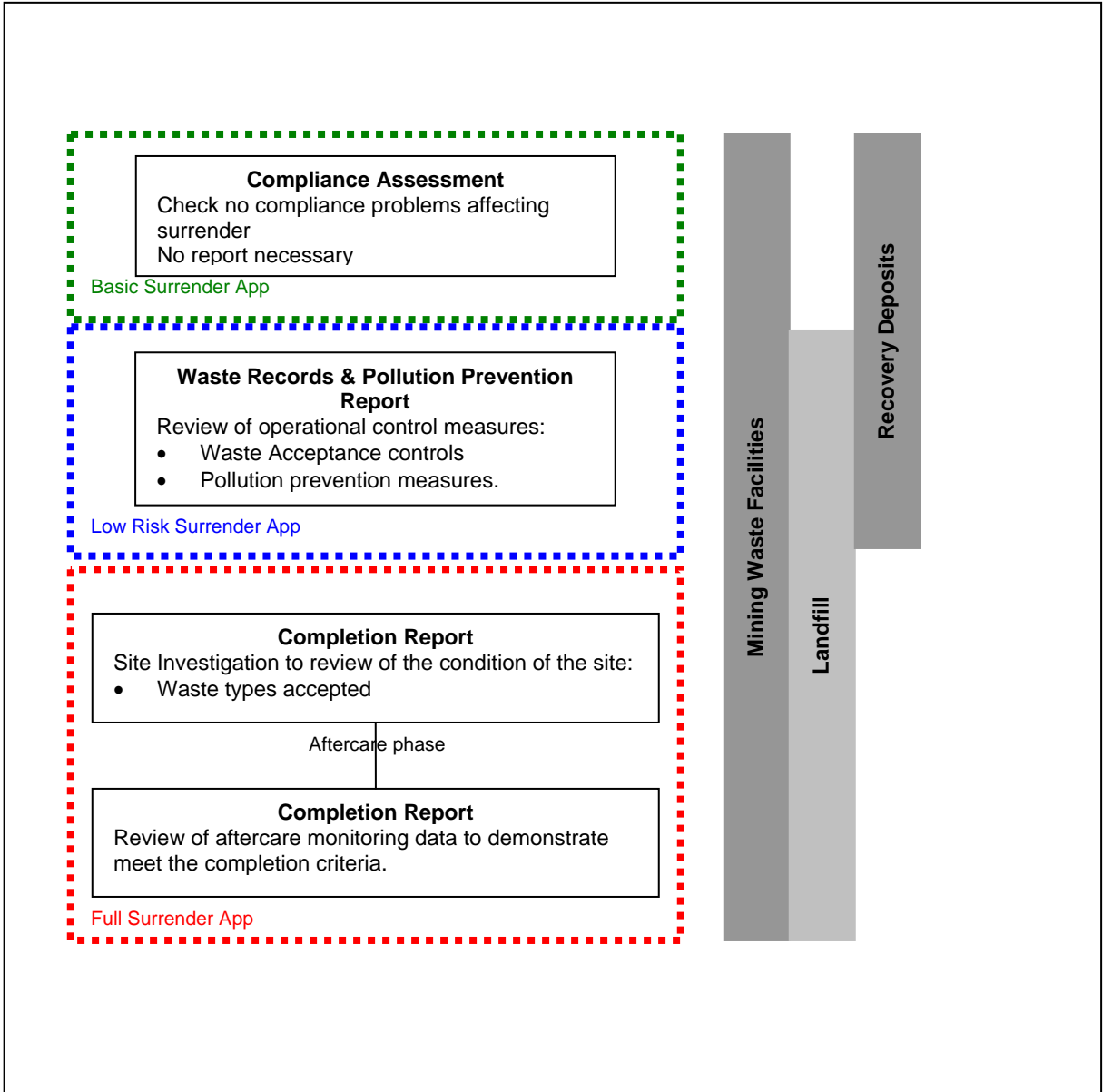
- use of waste in construction (up to 100,000 tonnes of waste);
- treatment of land for reclamation, restoration or improvement of land (up to 100,000 tonnes of waste).

Operators of the following mining waste operations (Section 6):

- inert mining waste operations (excluding Category A facilities).
- hazardous or non hazardous mining waste facilities without a mining waste facility.
- those hazardous and non-inert mining waste facilities designated as suitable for basic surrender when permitted.

- 2.14 The basic surrender approach assumes the operator has been compliant with the standard rules. If we find there has been a non-compliance affecting surrender, we will need to consider if a standard rules permit and basic surrender are still appropriate. It may be necessary to convert it into a bespoke permit.

Figure 1: Surrender arrangements for various waste activities



Low risk surrender

2.15 The extent of evidence required at surrender to prove the facility is in a satisfactory state depends on the possible risk at that point. We have developed low risk surrender arrangements where the evidence burden is small or non-existent. Currently, this includes:

- for installations (non-landfills) and waste facilities, where the risk to the environment is sufficiently low that we do not need intrusive site survey or monitoring data in the surrender site condition report⁴;
- for landfills, where:
 - the waste was inert, from a single source, well characterised and controlled; and
 - sensitive receptors are absent or well protected.

⁴ See criteria in Box 1 of *H5 Site condition report template*

3. LAND NOT USED FOR PERMANENT DEPOSITS OF WASTE

3.1 This concerns:

- land at landfill installations;
- all other installations⁵;
- all waste facilities.

It does not concern land used for deposits of waste as a recovery operation or mining waste operations.

3.2 There can be significant risks of accidental or uncontrolled releases to land or groundwater at these regulated facilities. Therefore, we require operators to show there has been no deterioration of the quality of the land or groundwater as a result of the operation of the facility. That can be done in two ways and we will use an appropriate combination of the two:

- 1 Show that the measures necessary to prevent contamination were appropriate and maintained throughout the lifetime of the permit (or licence); that any contamination that did occur was promptly and effectively dealt with; and that records were kept to demonstrate this.
- 2 Compare site characterisation data provided at application and at surrender to show that no deterioration has taken place.

We do this using site condition reports. The low risk surrender route is available to those who do not need site characterisation data to prove they can meet the test. Criteria for when site characterisation monitoring is necessary is given in our technical guidance².

Site condition reports

3.3 Our guidance on SCR explains what information we expect and provides a template^{2,3}. It reflects the lifetime approach as it includes a section to be completed on application, parts to be updated during the lifetime of the facility and some to be completed at surrender. So that it builds up to be a complete record. The scope and level of detail depend on the environmental risks posed by the operations⁶ and the land use history of the site.

⁵ Applicants for an installation must submit an application site condition report in order to comply with the requirements Article 6 of the Integrated Pollution Prevention and Control Directive (Council Directive 2008/1/EC) which states that an application for a permit must include "...a description of the conditions of the site of the installation".

⁶ See technical guidance H1 - *Environmental Risk Assessment*.

- 3.4 Applicants for standard permits are recommended to produce an application SCR - unless they expect to be eligible for basic surrender (section 2.13) - but are not required to so, unless for an installation.
- 3.5 Applicants for bespoke permits for waste facilities must submit an application SCR unless the facility is a low risk to land and groundwater (and even then they are recommended to produce one).
- 3.6 For applications made on or after 6 April 2008, the permits (including standard permits) will contain conditions embedding protection of land and groundwater into day-to-day environmental protection (see section 2 for record keeping required by these conditions).
- 3.7 Detailed arrangements are given in Appendix A for Pollution Prevention and Control and Waste Management Licences which became environmental permits.

Surrender of permits

- 3.8 A surrender SCR describes the condition of the land and groundwater at the point at which the operator applies to surrender the environmental permit. It is this report that provides the basis for our judgement as to whether unacceptable pollution risks have been removed and the site is in a satisfactory state (see section 2 above and the Core Guidance).

4. WASTE DEPOSITS AT LANDFILLS

- 4.1 This section concerns the surrender of permits governing permanent deposits of waste at landfills. We would only consider the surrender of these permits once the area has ceased accepting waste (closed) and undergone a period of aftercare to allow the waste to stabilise.
- 4.2 To accept surrender we need to be satisfied the deposits of waste are in a satisfactory state, i.e. will not cause an unacceptable risk of pollution or harm to human health or the environment. This can be through either:
- (a) waste acceptance records which show the waste is sufficiently low risk; or
 - (b) emissions are shown to meet risk-based completion criteria developed for that particular site.

Technical guidance is being prepared. The low risk route is open to those who only need waste acceptance records, i.e. inert waste sites.

- 4.3 We will not accept surrender where active pollution control measures are necessary. Where passive control measures (barriers etc) will degrade over time, we will only accept surrender where it can be shown this would not result in pollution.

Existing and new operational landfills

- 4.4 We require a closure and aftercare plan with the permit application (Article 7(g) of the Landfill Directive). It should:
- specify the pollution control measures to be put in place on closure (i.e. when it has stopped taking waste);
 - specify how the facility will be managed and monitored during the subsequent aftercare phase;
 - provide risk-based completion criteria which would show the facility is in a satisfactory state for permit surrender.
- 4.5 During the aftercare phase of the facility we will periodically review the closure and aftercare plan to ensure that the correct information is being collected and discuss with the operator if the completion criteria should be refined.

Landfills that stopped taking waste between 16 July 2001 - 16 July 2009

- 4.6 We required details of the aftercare monitoring as part of a closure report in the closure procedure under the landfill directive. These requirements

were then incorporated into the permit when we were satisfied the landfill was definitely closed.

- 4.7 We periodically review the monitoring and management requirements during the aftercare phase. Where site specific completion criteria have not been set we will agree some with the operator.

Landfills that stopped taking waste before 16 July 2001

- 4.8 We do not require closure reports for these but will periodically review monitoring and permit conditions to ensure satisfactory progress towards surrender.
- 4.9 We will invite the operator to submit a surrender application when we consider the facility could be in a satisfactory state.

Landfills where all the waste has subsequently been removed

- 4.10 Where a landfill operator subsequently removed all the waste deposited ('mined it'), the surrender application must demonstrate that no residual contamination is left in the ground which is likely to cause pollution.

5. WASTE DEPOSITED FOR RECOVERY

5.1 Under certain circumstances we regard the deposit on land of some wastes as a recovery operation. For example, we have two standard permits:

- use of waste in construction (up to 100,000 tonnes of waste);
- treatment of land for reclamation, restoration or improvement of land (up to 100,000 tonnes of waste).


5.2 These standard permits are eligible for basic surrender (section 2.13).

5.3 For others - generally bespoke permits - we shall need a report satisfying us that the deposits of waste are in a satisfactory state, i.e. will not cause an unacceptable risk of pollution or harm to human health or the environment. This can be through either:

- (a) waste acceptance records which show the waste is sufficiently low risk, i.e. low risk surrender; or
- (b) emissions are shown to meet risk-based completion criteria developed for that particular site, i.e. normal surrender.

6. LAND AT MINING WASTE OPERATIONS

- 6.1 There are a number of types of extraction industry activity which can come within a mining waste operation – for detail see RGN 2 *Understanding the meaning of regulated facility*. The operator must demonstrate they are leaving the land in a satisfactory state for us to accept surrender of the permit. We base our approach on risk, referring to groups of activity referenced in the Mining Waste Directive (MWD) where we can. To avoid duplication, we are integrating requirements into the Waste Management Plan (WMP) where possible.



Type of mining waste activity	Surrender requirement
Any inert mining waste operations, excluding Category A facilities Any hazardous or non hazardous mining waste operation without a mining waste facility	Basic surrender: the WMP must show the preventative measures to avoid environmental impact during operation and closure. Satisfactory state demonstrated in WMP at closure by referring to records of the waste deposited and the pollution prevention measures used.
Non-hazardous & non-inert mining waste facilities	We will consider the specific risks at permitting. Where active control measures are not required to prevent pollution, we will rely on the approach above ⁷ . In other cases we will consider an aftercare monitoring phase is necessary (see below).
Category A & hazardous mining waste facilities	Closure plan with aftercare monitoring and risk-based completion criteria.

Basic surrender

- 6.2 For these activities it is clear there should be no risk to land if they meet the conditions/rules in the permit. These will typically be through the appropriate selection of waste for disposal in that area. Except where we have found during the compliance assessment of the activity that the

⁷ Application of derogation in Art 2(3) para 3, Art 12(5) & (6)

operator has not complied with the permit conditions, we would accept surrender of these without an assessment report.

Using the Waste Management Plan

6.3 We require a statement of how the site, including permanent deposits of waste have been returned to a satisfactory state. This should demonstrate how waste has only been left on site in accord with the authorised WMP and presents no risk to the environment. It should also explain how working areas have been cleared and restored to the initial state or better, eg in accord with planning permission requirements.

Using a closure plan and completion criteria

6.4 We require a plan for closure with the permit application (Article 5.3(f) of the MWD) for Cat A and hazardous MWD mining waste facilities. For certain others (see above) we may decide a closure plan is necessary and require it by Improvement Condition.

6.5 The closure plan should:

- specify the pollution control measures to be put in place on closure (i.e. when it has stopped taking waste);
- specify how the facility will be managed and monitored during the subsequent aftercare phase;
- provide risk-based completion criteria which would show the facility is in a satisfactory state for permit surrender.

6.6 During the aftercare phase of the operation we will periodically review the closure and aftercare plan to ensure that the correct information is being collected and discuss with the operator if the completion criteria should be refined.

6.7 We will not accept surrender where active pollution control measures are necessary. Where passive control measures (barriers etc) will degrade over time, we will only accept surrender where it can be shown this would not result in pollution.

6.8 We will consider the land to be in a satisfactory state when the operator submits a surrender application with evidence that emissions from the operation meet the completion criteria and the risks are therefore acceptable.

Mining waste operations which become landfills

- 6.9 In future, working areas at say a quarry at which mining waste activities are undertaken may be progressively transferred to a landfill operation. With a different operator for each. We will work with business to develop arrangements to help the smooth movement between permits and transition from meeting the requirements of the MWD to those of the LFD.

7. NON-NUCLEAR RADIOACTIVE SUBSTANCES FACILITIES

- 7.1 A key purpose of the conditions of environmental permits (and registrations and authorisations issued under the Radioactive Substances Acts which are now environmental permits) is to ensure users avoid or deal with radioactive contamination and properly dispose of radioactive substances which are no longer needed. We check this in our compliance work.
- 7.2 Applicants for environmental permits for non-nuclear radioactive substances facilities are not required to submit information about the current state of the land or groundwater unless there are existing risks to people or the environment which
- they believe they should not be held responsible for, or
 - that we consider should influence the conditions we include in a permit.
- 7.3 Applicants proposing surrender will need to show that there is no significant risk to people or the environment.
- 7.4 Regulatory Guidance Note RSR 3 concerning non-nuclear regulation, together with our guidance to applicants and to permit holders, set out further details of our regulatory approach.

Appendix A: Arrangements for Pollution Prevention and Control (PPC) and Waste Management Licences (WML) which became environmental permits

Installations permitted under the PPC regime

A1 These fall into two subgroups:

- (i) Early PPC applicants, who either submitted a desk study (low risk sites) or an intrusive site report based on guidance at the time.
 - (ii) Later PPC applicants, who submitted a desk study to characterise the initial state of the site and were required to support this by producing an ongoing Site Protection and Monitoring Programme (SPMP).
- A2 We wrote to operators with SPMP conditions in their permits, stating that we will cease enforcing the SPMP conditions provided they commence the lifetime records approach (as outlined in section 3). In principle the SPMP provides similar information to that in the lifetime records approach. The operator may choose to continue to collate information through the SPMP. In these circumstances, the SPMP will be considered an essential part of the management systems and records.
- A3 When a permit is varied to include the modern conditions (those in the EPR April 2008 template) this will make explicit the approach of maintaining records relating to the protection of land and groundwater as an integral part of the operator's management system.
- A4 When operators apply to surrender these permits, the Core guidance states we should not hold the operator responsible (under Environmental Permitting surrender requirements) for contamination on the site that we are convinced was caused before the PPC permit was issued for the installation – or in the case of former waste management licensed sites before it was first licensed under the Environmental Protection Act 1990 or under Part 1 of the Control of Pollution Act 1974.

Waste facilities permitted before 6 April 2008

- A5 Waste facilities permitted before 6 April 2008 will have been licensed under WML or the Control of Pollution Act.
- A6 The requirement to make an application to surrender a waste management licence came into force in 1994. For the vast majority of waste operations licensed before 1994, there will have been no assessment of the state of the land and groundwater when operations

began. Operators of sites issued with a WML from 1994 may have done an assessment of the initial site condition.

- A7 We have written to operators of waste facilities, advising them to adopt the lifetime records approach (as outlined in section 2).
- A8 When a permit is varied to include the modern conditions (i.e. those in the EPR April 2008 and later templates) this will make explicit the approach of maintaining records relating to the protection of land and groundwater as an integral part of the operator's management system.
- A9 When operators apply to surrender these permits, the Core guidance states that we should not hold the operator responsible (under Environmental Permitting surrender requirements) for contamination on the site that we are convinced was caused before the facility was first licensed under the Environmental Protection Act 1990 or under Part I of the Control of Pollution Act 1974.
- A10 The Core guidance also states that we should only consider contamination arising from the handling of waste.
- A11 For old waste sites there may be insufficient information to show that land and groundwater have been protected during the lifetime of the permit and thus that there has been no deterioration. In these cases we may require additional information in the surrender SCR, including site investigations. Operators should get our advice on whether we will need soil (and possibly groundwater) sampling.
- A12 For waste facilities permitted before 6 April 2008, when we consider satisfactory state of the land and groundwater, we will additionally consider a risk based assessment including future use of land (where this can be shown through planning permissions).