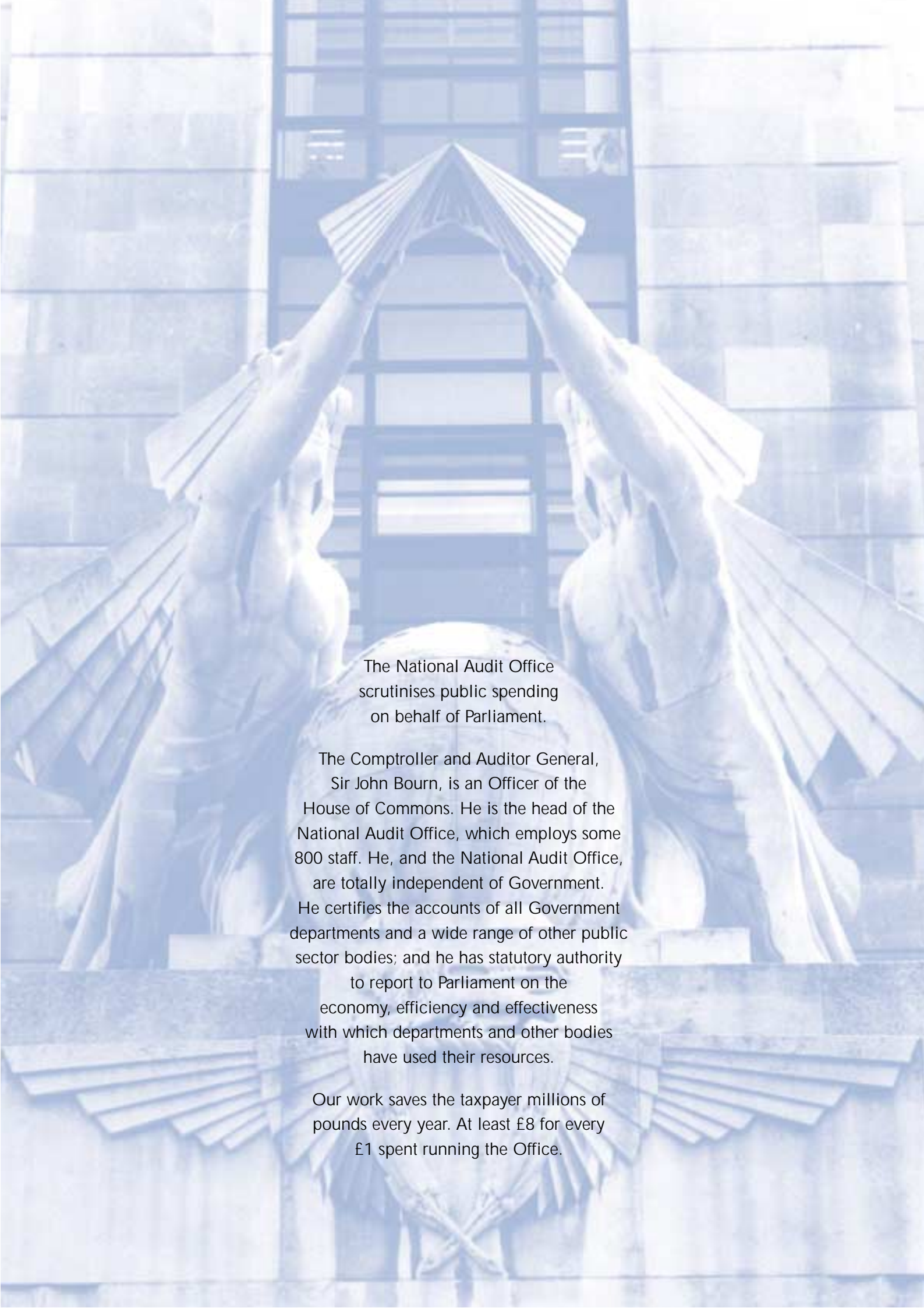


Environment Agency
Protecting the Public from Waste

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 156 Session 2002-2003: 18 December 2002





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Environment Agency
Protecting the Public from Waste



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HC 156 Session 2002-2003: 18 December 2002

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

John Bourn National Audit Office
Comptroller and Auditor General 6 December 2002

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executive summary

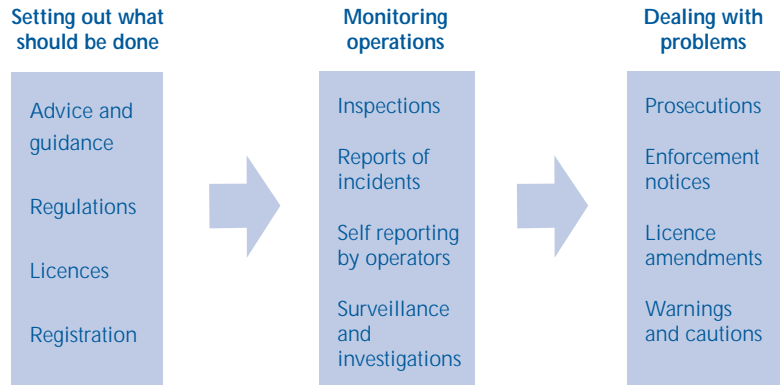
- 1 The Environment Agency (the Agency) regulates the management and disposal of over 170 million tonnes of waste produced by homes, commerce and industry in England and Wales each year. Around 45 per cent of this waste goes to landfill, including 80 per cent of household waste; the rest is recycled or incinerated. This report focuses on the Agency's inspection and licensing work in England.
- 2 The Agency's main objective in regulating waste is to ensure that waste is managed and disposed of properly so as to prevent harm to health and the environment, for example by preventing pollution of air and water, and through requiring controls on smells, litter, pests and noise. In carrying out our review we have considered how the Agency and the Department for Environment, Food and Rural Affairs (the Department) might improve their management of risk and the impact of regulation on industry.
- 3 The waste industry is estimated to have an annual turnover exceeding £4 billion and to employ some 90,000 people. It is made up of a wide variety of firms and activities ranging, for example, from single person businesses to large multinational companies. The Agency spends £78 million a year on waste regulation, funded by charges paid by operators of £38 million a year and by grant-in-aid from the Department and the National Assembly for Wales. The Agency employs the equivalent of 1,800 full-time members of staff on all its waste regulation activities, mainly in 26 area offices grouped into seven English regions and Environment Agency Wales, and with a small team at Head Office.



- 4 The Agency was established in April 1996, taking over responsibility for waste regulation from 83 local waste regulation authorities. It regulates waste within a legal and policy framework established by the Department and reflecting European Union legislation. This framework sets out the responsibilities of producers and handlers of waste, and requires the more significant waste sites and activities, such as landfill sites, to be licensed. Other sites and activities must be registered with the Agency, providing much less control than a licence.
- 5 Some 7,700 waste sites and activities are currently licensed, and a further 54,000 sites and 67,000 waste carriers and waste brokers are registered with the Agency. The legal framework provides for the Agency to regulate waste in three main ways: by setting out how waste should be managed, for example in conditions included within licences; by monitoring to check compliance with licences and the law, primarily by inspecting waste sites and activities; and by dealing with problems, for example by prosecuting those disposing of waste illegally (**Figure 1**).

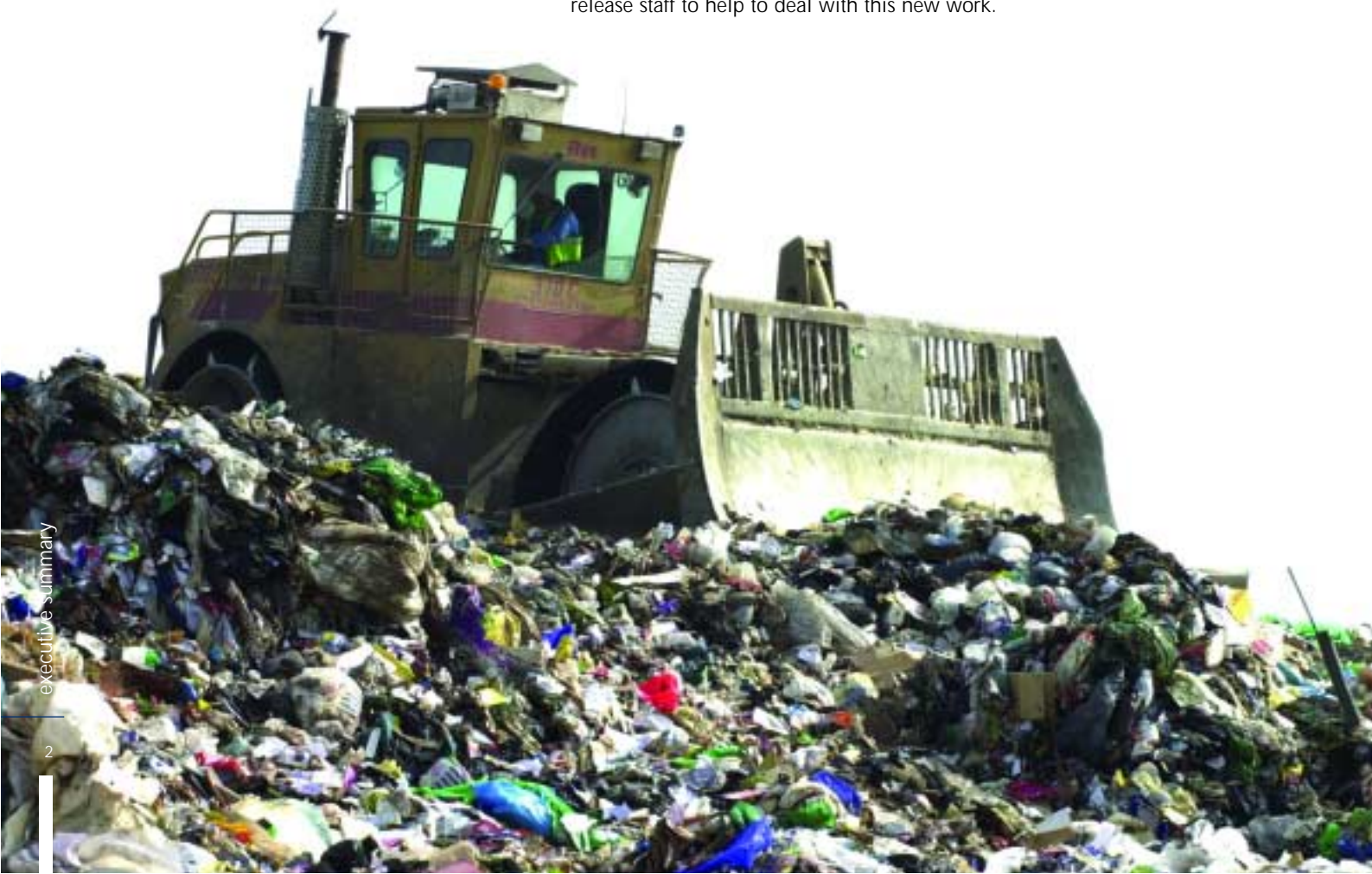
1 How waste is regulated

The Agency provides advice and guidance on how waste is to be managed, licences and monitors operations, and acts in response to problems.



Source: National Audit Office

- 6 Recent European Union legislation has increased the Agency's workload, and more is expected to do so in the near future. In particular, to implement the Landfill Directive the Agency is required to oversee major improvements in environmental standards at all landfill sites. And to comply fully with the Waste Framework Directive the Department intends to extend waste regulation to include agricultural waste, bringing into the Agency's regulation some 180,000 farms in England and Wales generating an estimated 96 million tonnes of waste annually. Other significant demands on the Agency include the new European Hazardous Waste list and the End of Life Vehicle Directive, which will have to be implemented and enforced over the next 18 months. The Agency is therefore seeking to modernise its approach to waste regulation to release staff to help to deal with this new work.



Main findings

- 7 The Agency has made much progress since 1996 in creating a single organisation providing consistent and professional regulation across the country. It has become increasingly active in prosecuting waste offences, and improving standards of waste licensing and management, and continues to seek to improve its performance. Nonetheless:
- The Agency could make better use of the resources it uses to inspect waste operators, improve the effectiveness of regulation, and reduce unnecessary regulatory burdens, by carrying out fewer but more comprehensive and in-depth inspections.
 - The Agency needs to deal more effectively with operators that persistently fail to comply with their licences.
 - The Department recognises that controls over sites exempt from the requirement to be licensed need to be changed, for example to bring some currently exempt types of site within the scope of licensing, and to exempt others that are currently licensed, but it has taken too long for the Department to complete a review of these controls.
 - The Agency needs to look for ways of reducing the time taken to deal with licence applications.
 - Taxpayers may end up paying for dealing with problems caused by abandoned waste sites, particularly landfill sites, because operators' financial provisions are either insufficient or unavailable.

Some improvements will require action by the Department. For example, to change its guidance to the Agency on the targeting of its inspections of waste operators, and to propose changes to the law on financial provision, exemptions and waste licensing.



The Agency could make better use of the resources it uses to inspect waste management operations by carrying out fewer but better inspections

- 8 In 2001-02 Agency staff carried out over 100,000 inspections of licensed waste sites (compared to some 118,000 planned) to check compliance with licences and waste regulations, at a cost of about £17 million. The great majority of inspections are unannounced, and the Agency uses other techniques, such as covert closed circuit television surveillance, to detect non-compliance by operators and other illegal waste activities, such as fly tipping.
- 9 Almost all inspections are what is termed 'routine', consisting of short visual inspections typically lasting less than two hours for smaller sites. However, the Agency also carried out 62 in-depth inspections in 2001-02. These involve several inspectors spending several days on a thorough review of the operation of the site and checking that the terms of the licence remain appropriate.
- 10 The Agency is required to have regard to guidance issued by the Department on the conduct of its waste regulation function. Since 2000 the guidance has allowed the Agency flexibility in targeting inspections to reflect the potential hazard posed by individual sites and the standard of site management, allowing the Agency to reduce the frequency with which well run and low risk sites are inspected.
- 11 Despite this change, the Agency planned to carry out an average of 15 visits to each licensed site in 2001-02. This is more than a number of other countries with whom we compared the Agency's regulation of waste, including France, Ireland and the United States.¹ It is also more often than the Agency inspects municipal waste incinerators, which are also subject to the European Union Waste Framework Directive, but which the Agency is currently required to license and inspect under a separate legal regime, and with different guidance from the Department. Following recent criticism of its regulation of incinerators and the control of recycled fly ash, the Agency reviewed its inspection of incinerators and from 2003-04 will double the frequency of visits to six announced and six unannounced inspections a year for each incinerator. The Agency is still required to inspect all licensed waste sites at least quarterly and some low risk sites are inspected even more often; for example a pet cemetery we visited is inspected eight times a year.
- 12 There is no evidence that this high frequency of inspections, covering all licensed sites, is required to deliver effective regulation. Most reports of waste pollution incidents relate to a small proportion of sites; for example in 2000-01 such reports were recorded at only 12 per cent of licensed waste sites, and nine sites accounted for 35 per cent of all the major or significant incidents recorded in that year. The Agency believes that landfill site activities are inherently less consistent and controlled than those of a process operation such as an incinerator, and are therefore always likely to require more frequent inspection. However, it is considering whether it can reduce the number of inspections while still ensuring that operators deliver the same level of environmental protection.



¹ Appendix 5 summarises our findings on waste regulation in seven countries in Europe and North America.



- 13** Routine inspections have value in helping the Agency to monitor the operation of sites and to detect quickly, and put right, poor waste management. However, routine inspections are not always in sufficient depth to identify all risks to the environment. In our review of prosecutions and major incidents we found some examples of problems at licensed sites which had not been rectified despite the Agency's frequent inspections, and some of the site managers we interviewed were critical of the limited nature of inspections carried out. In addition, the Agency does not routinely examine the systems established by some operators to manage their own compliance with regulatory requirements; these systems can provide evidence that appropriate standards are maintained continuously and not just when an inspector is on site. The Agency should therefore investigate whether it can make better use of its resources by:
- carrying out fewer inspections and using the resources released to deal more effectively with operators responsible for multiple breaches of licence conditions;
 - carrying out more in-depth inspections;
 - examining the scope to rely more on operators' management systems, where these are of a good enough standard.
- 14** The Agency is moving in this direction in 2002-03 by reducing the number of routine inspections and using the resources released to increase, over a period of years, the number of in-depth site investigations to over 600 a year, compared with 62 completed in 2001-02. However, the Agency believes that any further redirection of effort will require additional training of Agency staff, particularly in the detailed auditing of operators' management systems. In addition, planned improvements in the Agency's monitoring of findings from inspections will be needed to enable the Agency to monitor changes in standards of waste management in response to any redirection of effort. The Agency also believes that the Department will need to revise its guidance to the Agency to clarify further the flexibility available to the Agency to target inspections according to risk. The Department's current review of statutory guidance on waste licensing and inspections, which will be going out to consultation shortly, will seek to provide this clarification.

The Agency has become increasingly active in prosecuting waste offences but needs to use its enforcement powers more effectively

- 15** No information is available on the amount of pollution involving waste before the Agency's establishment in 1996, but in 2001-02 the Agency investigated around 20,000 reports of potential waste pollution incidents. Following investigation, some 3,900 substantiated pollution incidents were attributed to waste management premises, of which some 400 incidents were assessed as posing a serious or significant risk to health or the environment. Major changes in the Agency's methods of recording reports of alleged pollution incidents, following the introduction of new computer systems in 1998 and during 2001, make it difficult to determine whether there is any clear trend in incidents over time.

- 16** The Agency has powers to prosecute individuals and companies for offences under waste legislation. In 2001-02, it secured convictions in 466 cases, a 93 per cent increase over 1996-97. Fines imposed by the courts in 2001-02 totalled £1.4 million, and the average fine increased from £1,132 per case in 1996-97 to £3,004 per case in 2001-02. Nevertheless, the Agency is concerned that even the current level of fines does not reflect the seriousness of some waste offences and the potential rewards to unscrupulous operators from the illegal disposal of waste.
- 17** Residents and environmental groups near some sites complained that the Agency had been slow to take action against operators. We found that the Agency did not always escalate the action it could take where there were multiple, but individually, minor licence breaches at a site. A study by the Agency in May 2000 of the operation of its enforcement and prosecution policy also found that some cases were not considered for legal action when required by the policy, although a follow-up study in 2002 found significant improvements in enforcement activity.
- 18** To improve its response to multiple breaches, the Agency is developing standardised arrangements for categorising the severity of licence breaches, and plans to provide greater clarification for staff and operators on how it will respond to particular categories of breach. Proposals were published for consultation during 2002 and the Agency plans to implement the new arrangements from April 2003. To provide further incentives for operators to comply with their permits, the Agency is currently trialling a proposal to link operators' annual licence fees to the frequency of inspection. Subject to approval by Ministers, the Department would like to see the revised scheme implemented from 2003-04.
- 19** The Agency's enforcement and prosecution activities are largely funded through Government grant-in-aid. The Agency told us that any further increases in its prosecution activity will require either significant improvements in efficiency, an increase in grant-in-aid or reduced service levels in other regulatory activities.



The controls over sites exempt from the requirement to be licensed need change, but the Department has taken too long to complete a review of these controls

- 20** The European Union Waste Framework Directive requires that all licensed and exempt activities are subject to appropriate periodic inspections. The UK regulatory framework was designed on the understanding that only licensed sites require frequent inspection. The Department and Agency have not agreed on any particular frequencies for meeting the requirement to inspect the 54,000 waste sites exempt from the requirement to have a licence, nor for inspecting the 67,000 registered waste carriers and waste brokers.
- 21** Many exempt activities are very low risk, for example, bottle banks. However, the Select Committee on the Environment, Transport and the Regions, the European Commission and the media have highlighted possible abuse of some exemptions, such as construction waste being dumped on land under the pretence that it is being used for landscaping. At present there is no charging scheme associated with most exempt activities. The Agency has limited funds earmarked specifically for inspecting exempt sites and carried out fewer than 7,000 inspections of exempt activities in 2001-02, targeted mainly at higher risk sites such as scrap yards and the spreading of waste on agricultural land.
- 22** The Department recognises that controls over some exempt sites need to be changed. For example, the Agency would like to bring some sites that are currently exempt within the scope of licensing and exempt some sites which are currently licensed. The Department has been reviewing proposals to amend a number of exemptions since 1998 and is currently preparing draft Regulations for consultation. Subject to approval, the revised Regulations will tighten the controls over some types of exemptions and will include licence fees to enable the Agency to inspect exempt sites more effectively. The Department and Agency have also agreed on the need for a more fundamental review of waste licensing and exemption, and of the definition of waste. Work on this review is due to begin shortly.



The Agency has improved standards of waste licensing but needs to improve further on the time taken to deal with licence applications

- 23** The Agency uses its scrutiny of applications for new licences, and its power to amend licences, to help secure modern standards of site construction and operation to protect health and the environment. It has provided guidance to staff to promote greater consistency and speed in scrutinising licence applications and is proposing a range of improvements in its licensing system as part of a reorganisation of its regulatory activities (project BRITE).
- 24** The overall length of time taken to deal with licence applications is of concern to the industry. In 2001-02 only 20 per cent of new licences were issued within four months from the date of application and around one in seven can take more than a year. We also found that, in general, licensing files contained little documentation of the authorisation of, and reasons for, licensing decisions. The Agency has available examples of good practice in recording such decisions and plans to re-issue these to offices to make sure that all staff are aware of them.
- 25** The Agency recognises that dealing with applications can be a lengthy process, and that the time taken to process applications could discourage innovation by current or prospective site operators. However, it considers that additional time is often needed to ensure that licences meet the requirements of the legal framework established by the Department. It is not always possible to attribute responsibility for delays between the Agency and the applicant. Many factors can contribute to the delays in each case including: incomplete applications, delays in establishing the planning status of the proposal, delays in agreeing adequate financial provision and delays in meeting the Agency's requests for further information. The Agency has submitted proposals to the Department to simplify the licence application process where possible and thereby reduce the time needed to scrutinise applications.
- 26** The Agency is able to vary licences at any time if it believes that this is required to ensure protection of the environment, although this may be subject to challenge and appeal by the operator. Around 5,800 of the 7,700 waste licences currently in force were issued by local waste regulation authorities before the Agency's creation in 1996, following a variety of practices and standards. Since 1996, the Agency has revised many of these licences to bring them up to a more modern and consistent standard.
- 27** The Agency believes that older licences remain highly variable in quality, although it does not collate national information on how many. The Agency plans to replace many of its waste licences between 2004 and 2007 in order to implement the Landfill Directive and other European Union legislation. The Agency decided in 2000 to postpone any further review of pre-1996 licences as the risk to the environment posed by these licences is not sufficient to justify the effort required to make changes that will then be in effect for only a limited period.

- 28 Both the Agency and the Department recognise difficulties with the existing waste regulatory framework and have committed to a full review of waste licensing legislation. The Department is already considering a number of concerns expressed by the Agency and will formulate proposals for a risk-based system of licensing for all waste recovery and disposal activities. Such changes would help to better match regulatory effort to risk to the environment and allow for proportionate implementation of recent European Union requirements. The Department is also reviewing its guidance to the Agency on the review and revision of existing licences.

Taxpayers may end up paying for the management of abandoned waste sites because operators' financial provisions are unavailable or insufficient

- 29 Operators licensed since 1994 have been required to make financial provision to meet obligations arising from the licence including the continuing costs of managing sites after closure, for example, to stop liquid leaking from the site and polluting local rivers and water supplies. In April 2002, the provisions made by operators totalled £196 million. Since the Agency's establishment in 1996, operators' provisions have proved inadequate to meet all obligations on six of the 15 occasions they have been called on, by a total of some £2.7 million. Of this, the Agency expects to fund works totalling £121,000: the rest is likely to be met privately (including £2.4 million by the landowner of one site).
- 30 In addition, recent case law suggests that financial provisions may not be available to pay for meeting licence obligations where operators have gone into liquidation and the liquidators disclaim the waste licence. This could become an increasingly serious problem and the Department is working closely with the Agency, the Department of Trade and Industry, and the industry in seeking to ensure that the costs of recovery and disposal are borne by the operator in accordance with the "polluter pays" principle.
- 31 Fly tipping (the illegal dumping of waste without the landowner's permission) is typically motivated by a wish to avoid the cost of disposing of waste legally - landfill operators' charges for accepting waste are typically around £12 to £38 a tonne. Local authorities deal with most fly tipping, but the Agency has agreed to deal with the more serious cases, for example incidents involving hazardous waste. The Agency estimates that each year there are around 50,000 fly tipping incidents in total, costing authorities some £50 million to £150 million to deal with. There is some anecdotal evidence of an increase in fly tipping following the introduction of the Landfill Tax in 1996, but most information on the amount of fly tipping is held by individual local authorities and is not collated nationally. The Agency's records of major fly tipping incidents do not show a clear trend and it does not collect overall statistics on all types of fly tipping.

Recommendations

- 32** The Department, working with the Agency, is reviewing its guidance to the Agency on waste licensing and inspection, which will provide an opportunity to address many of the issues raised in our report. We make the following main recommendations, many of which correlate with the emerging findings from the Department's and the Agency's review, and some of which may have resource implications:
- 1 In licensing and inspecting operators, the Agency and the Department should increase the reliance placed by the Agency on operators' own management systems and controls for waste management, where operators' systems are of a suitable standard. Reducing the large number of routine inspections of well run sites could release resources to help meet the new demands on the Agency's waste regulation staff and the costs of carrying out more detailed reviews of problem sites. To achieve this change the Agency needs to:
 - examine operators' own internal management systems for ensuring compliance with licences and waste legislation;
 - strengthen the training of its staff to improve their inspection and audit of operators' management systems;
 - monitor the outcomes of routine inspections, for example, in detecting licence breaches and pollution incidents;
 - review the impact of its planned increase in the number of in-depth inspections;
 - address with the Department the frequency of inspection for certain closed and non-operational sites.
 - 2 There should be an increase in the incentives for companies to comply with their licences and waste legislation. For example, the Agency should:
 - articulate more clearly what enforcement action will be taken in response to breaches of different types, and especially repeat breaches, to promote consistency in treatment and reinforce deterrence;
 - take prompt and appropriate enforcement action when a compliance failure is found, particularly where there is repeated disregard of the requirements of good waste management.
 - 3 The Agency should introduce a formal periodic review of licences for fitness for purpose and compliance with current standards of waste management. The Agency should collate the results of such licence reviews centrally to monitor the quality of the population of licences.

- 4 The Agency should improve the standard of the information retained on its licensing files after licences have been granted, in particular the reasons for decisions and the authorisation of decisions, both to protect the Agency in the event of judicial review and to assist staff using the files in the future. The improved standards of documentation for issuing licences under the Landfill Regulations should also apply to other waste licences.
- 5 As part of the proposed improvements to its system for processing licence applications, the Agency should develop improved targets which recognise the risk and complexity of different types of waste site, further improve the quality of its guidance to applicants and increase the use of standard licences for low risk waste sites.
- 6 In conjunction with the Department, the Department of Trade and Industry, and the industry, the Agency should establish what changes in the law should be proposed to achieve a more secure system of financial provision for waste sites where, for example, operators go into liquidation or disclaim the waste licence.
- 7 The Department should complete the review of exemptions, including the provision of a charging mechanism, so that the Agency can provide more active regulation of those sites that need it. Pending the completion of the review, the Agency should increase the work carried out to detect illegal waste disposal.
- 8 The Agency should address the deficiencies in its management information systems on environmental incidents and prosecutions so that it can, for example, routinely monitor, based on reliable data:
 - types of waste incidents and offences at licensed waste sites;
 - trends in the environmental impact of waste incidents;
 - the quality and timeliness of prosecution files submitted to legal teams;
 - the operations of the newly formed dedicated enforcement teams;
 - the effectiveness of the Agency's response to the more serious incidents.
- 9 The Environment Agency and the Department need to consult with the Local Government Association and other interested parties to agree a system for monitoring fly-tipping nationally which is both economic and reliable.



Part 1

Introduction

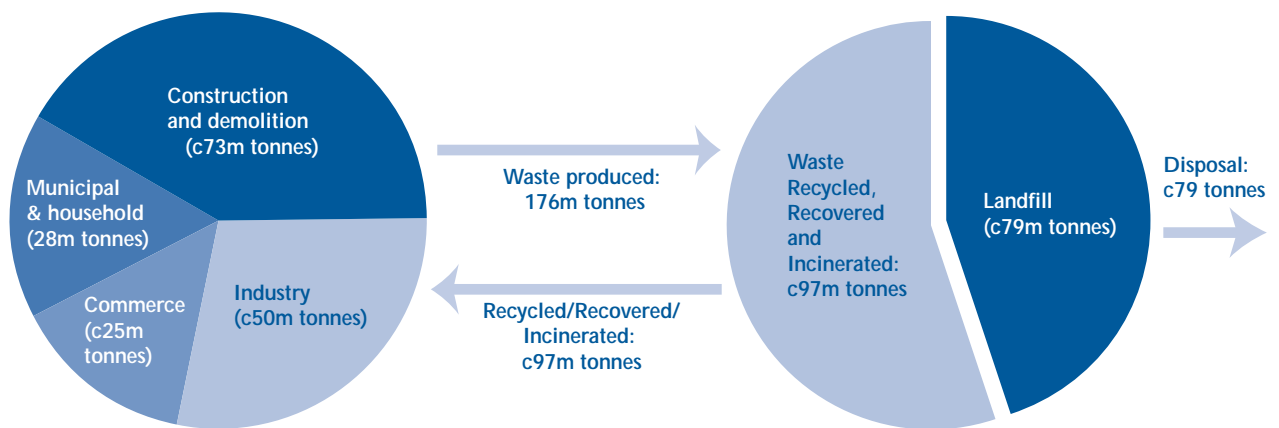
1.1 Since 1 April 1996, operators of landfill sites, incinerators and other waste disposal and recycling operations in England and Wales have been licensed and inspected by the Environment Agency (the Agency).² The Agency is also responsible for investigating pollution caused by waste. This Report examines the Agency's performance in regulating waste.

The Agency regulates the management of over 170 million tonnes of waste a year, to protect health and the environment

1.2 Everyone produces waste - at home, at work and at leisure. In England and Wales, homes, commerce and industry, including the construction industry, generate over 170 million tonnes of waste a year (Figure 2) of

2 Sources and disposal of waste regulated by the Environment Agency

The Environment Agency regulates the disposal of some 176 million tonnes of waste a year.



NOTE

Recovery includes composting and energy recovery by incineration. Totals are for England and Wales and exclude farm waste, dredgings and mining and quarrying waste.

Source: Environment Agency, based on information for 1998-99

² The Agency is accountable to the National Assembly for Wales for its work in Wales. Accordingly, our examination focused on the Agency's work in England. However, because the Agency's monitoring systems collect information for England and Wales, rather than just England, quantitative information in this report relates to England and Wales except where otherwise stated. Our findings on the Agency's organisation and methods will also generally be applicable to Wales as well as England.

which 45 per cent goes to landfill, including 80 per cent of household waste; the rest is recycled or incinerated. In addition, farms, mines and quarries produce an estimated 200 million tonnes of waste. The Department for Environment, Food and Rural Affairs (the Department) intends to extend Waste Framework Directive controls³ to the agricultural sector and to non-natural wastes from mines and quarries in the near future to comply with European Union legislation.

- 1.3 United Kingdom (UK) and European Union policy is based on the waste hierarchy, which encourages waste reduction, reuse and recycling, in preference to disposal (**Figure 3**). As a result, the proportion of waste going to landfill is expected to fall in the longer term. In particular, to comply with the requirements of European Union legislation, the Government has set a target to reduce the landfill of industrial and commercial waste to 85 per cent of 1998 levels by 2005, a reduction of 6 million tonnes a year, and to reduce the landfill of biodegradable municipal waste to 35 per cent of its 1995 level by 2020, a reduction of 10 million tonnes a year. In addition, some materials are to be banned from landfills: hazardous liquids and corrosive materials from July 2002, whole tyres by July 2003 and shredded tyres by July 2006. Despite these trends, there will be a continuing need for regulation because of landfills past and present and, for the foreseeable future, a continuing need to landfill some waste. In addition, the Agency estimates that approximately 1,500 waste management sites will be required to treat, recycle or incinerate an increasing amount of municipal waste diverted from landfill.
- 1.4 The UK system of waste regulation implements the European Union Waste Framework Directive (**Figure 4**) which stresses the need to protect human health and the environment through a system of licensing and inspection. Unless properly handled and disposed of, waste can be unsightly, cause disease and injury, and release pollutants into the environment. Waste facilities can also have a significant impact on the quality of life of people living nearby through smells, dust, litter, pests and noise.
- 1.5 The Agency is one of several bodies with regulatory responsibilities for the health and environmental impacts of waste disposal. Jointly with the Department of Health and others, it plans and commissions research on possible health effects of waste management operations. Appendix 2 summarises the responsibilities of the key bodies involved, and findings from recent research. The work carried out to date on long-term health effects from waste disposal is inconclusive. Some studies have found increased levels of some health problems near landfills and incinerators; but it has not been possible to eliminate other possible causes for these problems, such as other sources of pollution and variations in diet and levels of smoking of the people affected.

3 The waste hierarchy

Government policy is to reduce the amount of waste requiring disposal through using less raw material, reusing products and by greater use of recovery.

Reduction: by developing and marketing products designed to minimising the use of virgin natural materials and the energy used in manufacture and transport and minimise the waste produced during their manufacture and use.

Re-use: finding new uses for used goods and materials. Examples include the resale of second hand furniture collected from civic amenity sites.

Recovery: this includes the recycling, re-use and reclamation of materials such as scrap metal, paper, plastics and glass; composting of green wastes into compost and soil improvers; and energy recovery, for example through the burning of waste solvents at cement kilns.

Disposal: for example, through landfill or incineration.

Source: National Audit Office

4 Key provisions of the European Union Waste Framework Directive

The European Union Waste Framework Directive establishes the basic structure on which the UK system of waste regulation is based.

Article 1(a): "waste" shall mean any substance or object ... which the holder discards or intends or is required to discard.

Article 4: Member States shall take the necessary measures to ensure that waste is recovered or disposed of without endangering human health and without using processes or methods which could harm the environment ...

Article 9: ...any establishment or undertaking which carries out [waste disposal] operations .. must obtain a permit from the competent authority ...

Article 10: ..any establishment or undertaking which carries out [waste recovery operations] ... must obtain a permit.

Article 11: ...the following may be exempted from the permit requirement ...

(a) establishments or undertakings carrying out their own waste disposal at the place of production; and

(b) establishments or undertakings that carry out waste recovery...

...if the competent authorities have adopted general rules laying down the types and quantities of waste and the conditions under which the activity ...may be exempted and ...the conditions imposed in Article 4 are complied with.

The establishments or undertakings ...shall be registered with the competent authorities.

Article 12: Establishments or undertakings which collect or transport waste on a professional basis or which arrange for the disposal or recovery of waste on behalf of others (dealers or brokers), where not subject to authorisation, shall be registered with the competent authorities.

Article 13: Establishments or undertakings which carry out the operations referred to in Articles 9 to 12 shall be subject to appropriate periodic inspections by the competent authorities.

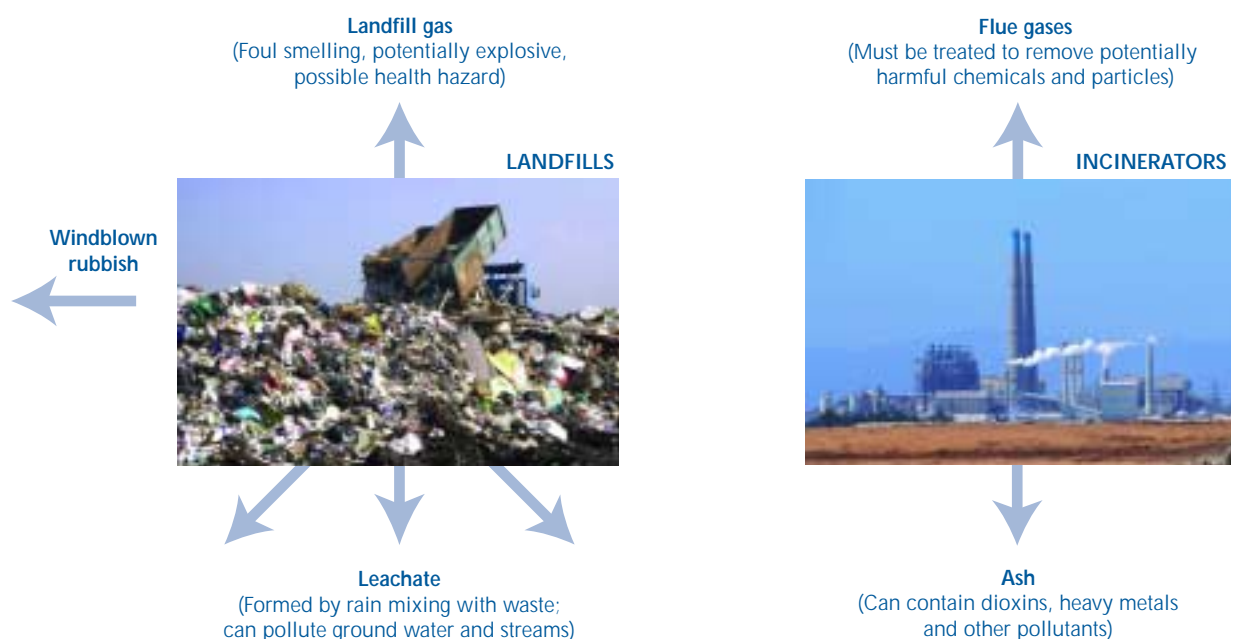
Source: Council Directive 75/442/EEC as amended by Council Directive 91/156/EEC of 18 March 1991

³ The UK operates within the European Union's Waste Framework Directive (Council Directive 75/442/EEC of 15 July 1975, as amended. European Union legislation has been carried through into UK legislation (Appendix 3).

- 1.6 The Agency has concluded, after taking advice from the Department of Health and others, that the scientific evidence at present available does not justify any change in regulatory practice for landfill sites or incinerators. However, the Agency is prepared to act if research satisfies it that there is a need to change current regulatory practice. For example, in August 2001 the Agency introduced additional research-based requirements for commercial composting as a precautionary measure to minimise health risks from fungal spores produced in the composting process.
- 1.7 The Agency is collaborating with the Department, the Department of Health, and other bodies to expand an existing memorandum of understanding. The new memorandum will clarify responsibilities for seeking and providing the best possible advice on environmental health, and for undertaking a continuing research programme to underpin that advice.
- 1.8 Modern waste disposal methods have significantly reduced the risk to human health and the environment compared with previous practices. Waste disposal in the UK, and abroad, was largely uncontrolled until the 1970s, when growing scientific evidence of pollution of ground water from landfill sites resulted in legislation to improve standards in the waste industry. In the UK, all new landfill sites must be constructed to minimise contamination of ground and surface water and to control emissions of odour and harmful gases.
- 1.9 Similarly, emission standards for incinerators were significantly tightened by the *Municipal Waste Incineration Directions 1991* which required all existing incinerators to meet improved emissions standards by 1 December 1996. In some instances the Agency's requirements went beyond the minimum requirements set by European legislation. These changes led to the closure of around 20 municipal incinerators and the temporary cessation of operation of a further 10 pending installation of improved abatement equipment. For new incinerators, the Agency requires operators to comply with the latest Waste Incineration Directive⁴ even though the Directive has not yet been transposed into UK law.
- 1.10 Nonetheless, risks remain with all waste management practices and these risks must be properly managed. **Figure 5** summarises the key environmental impacts that may arise from modern waste disposal facilities. And even waste management operations often perceived to be beneficial, such as recycling, have hazards associated with them that require careful management.
- 1.11 The waste management industry has an annual turnover estimated to exceed £4 billion a year, and employs some 90,000 people. Waste operators vary greatly in size, from single person businesses to very large UK and multinational companies, such as BIFFA Waste Services, with an annual turnover of some £500 million and Onyx, part of the French multinational group Vivendi. Waste activities also vary in size, for example from a small scrapyards or waste haulage business, to major landfills costing tens of millions of pounds to construct.

5 Potential impacts from modern landfill and incinerators

Landfills and incinerators pose hazards to health and the environment, which need to be controlled



Source: National Audit Office

4 Waste Incineration Directive (2000/76/EC).

The Agency regulates waste through a system of licences, inspections and enforcement

1.12 The Department is responsible for policy on waste regulation in England and for transposing European Union legislation on the environment into domestic regulations. Policy responsibility for Wales, Scotland and Northern Ireland lies with the Devolved Administrations. The Environment Agency has day to day responsibility for waste regulation in England and Wales. The Agency was established in 1996 with wide responsibilities for environmental issues and promoting sustainable development. It took over the functions of 83 waste regulation authorities⁵ formerly responsible for licensing and inspecting waste recovery and disposal operations. It also took on the responsibilities of the National Rivers Authority, which covered water quality, water resources, flood defence recreation, fisheries and navigation; Her Majesty's Inspectorate of Pollution, which regulated industrial sites and radioactive waste; and staff from the Wastes Technical Division of the former Department of the Environment. In total, the Agency employs around 10,500 staff and will spend £758 million in 2002-03.

1.13 The Agency has wide ranging responsibilities in relation to waste management. These include regulating waste facilities, the registration of brokers and carriers of waste, regulating international and national movements of hazardous waste, and regulating producers' responsibility for packaging and other types of waste. The Agency is also the Government's expert and professional advisor on the development and implementation of Government environmental policy and strategy, and plays an important role in contributing to the achievement of sustainable development. This broader role involves the Agency, amongst other things, in gathering, analysing and presenting data and information on waste in relation to the Government's Waste Strategy 2000.

1.14 In regulating waste management the Agency works principally by a combination of licensing, inspection and enforcement:

- All major waste sites must have a waste management licence - there were 7,700 licensed sites at 31 March 2002. In addition, 54,000 waste sites were exempt from requiring a waste management licence and 67,000 waste carriers and brokers were registered with the Agency.

- Agency staff inspect licensed sites to ensure compliance with licence conditions and waste legislation. The Agency carried out some 100,000 inspections in 2001-02.

- Legislation provides for penalties for breaches of licence conditions, operating unlicensed waste facilities and causing pollution. The Agency secured 466 successful waste prosecutions in 2001-02, which resulted in fines totalling £1.4 million and custodial sentences in seven cases. The Agency also served 235 enforcement notices on waste licence holders requiring urgent improvements in operations or the removal of waste.

1.15 The Agency produces technical guidance for the industry. It is notified in advance of the spreading of wastes on agricultural land and movements of hazardous waste. It also has a programme of visits to waste producers to check compliance with record keeping requirements. This also allows opportunities to discuss waste reduction and recycling.

1.16 The Agency's approach to waste regulation is directed from its head office, working through seven English Regions and Environment Agency Wales. Around 1,800 staff are involved in waste regulation, at an annual cost of £78 million. This work is funded by charges of £38 million a year paid by waste operators and collected by the Agency, and by grant-in-aid from the Department and the National Assembly for Wales.

1.17 The Agency works with other public bodies responsible for aspects of waste:

- The Health and Safety Commission and its operational arm, the Health and Safety Executive, are responsible for the safety of workers at licensed waste sites and are the joint responsible authority, with the Agency, for the Control of Major Accident Hazard Regulations 1999 (COMAH).

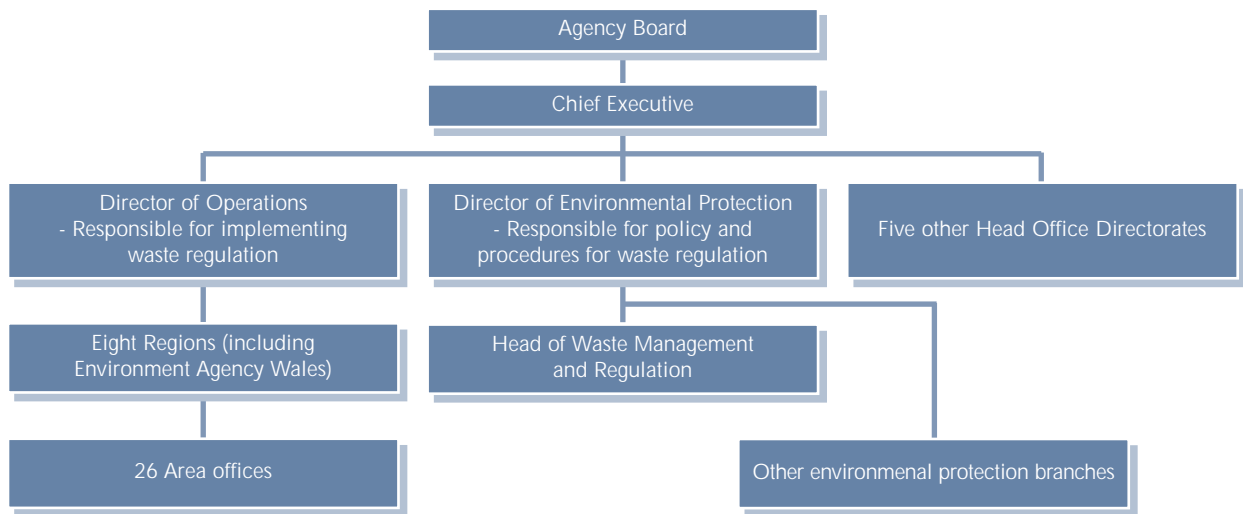
- The Department of Health, Strategic Health Authorities and local Primary Care Trusts and, from April 2003, the Health Protection Agency, with regard to possible health effects of waste management operations (see paragraph 1.5 to 1.7 above).

- Local authorities have a major role in arranging for the collection, disposal and recycling of waste, dealing with fly tipping and litter, for air quality issues (including odour) and for amenity issues (including noise).

⁵ Specialist authorities in Greater London, Greater Manchester and Merseyside; county councils, unitary authorities and metropolitan districts elsewhere, in some cases acting through consortia.

6 The Agency's waste regulation organisation 1996-2002

The Agency regulates waste through its area-based organisation, supported by a head office team. However, the Agency is currently undergoing re-organisation as a result of project BRITE (paragraphs 1.20 to 1.21).



Source: National Audit Office

- Waste Planning Authorities⁶ determine applications for waste management facilities under the Town and Country Planning system - this establishes the principle of locating a waste facility in a particular place. The authorities are also responsible for preparing Waste Local Plans and Municipal Waste Strategies, taking into account guidance from regional planning bodies in England, the Office of the Deputy Prime Minister and the National Assembly for Wales.

The Agency is seeking to modernise its approach to regulation

1.18 After its creation in 1996, the Agency faced a difficult task in absorbing both the responsibilities and the staff of the former 83 waste regulation authorities. Since that time there have been six reports from the Environmental Select Committee of the House of Commons. Some of these reports have been critical of some aspects of the regulatory and policy framework for waste management, and of the Agency's waste regulation (Appendix 4). In addition, parts of the media, and some environmental and local residents' groups, have been highly critical of the Agency's record in prosecuting breaches of licence conditions. In carrying out its work, the National Audit Office reviewed how the Agency has responded to these criticisms.

1.19 Recent European Union legislation has introduced important new environmental duties involving waste which will substantially increase the Agency's workload (Appendix 3). In particular, the Agency is required to secure improvements in waste management to comply with the Landfill and the Pollution Prevention and Control (PPC) Directives.⁷ This will involve, for example, issuing new permits to replace existing waste licences for all landfill sites and for large treatment plants to conform with the PPC regime already being implemented for industrial emitters of pollution. As required by the Waste Framework Directive, the Department will also extend waste regulation to agricultural waste, of which some 180,000 farms in England and Wales generate an estimated 96 million tonnes annually. The Agency expects that these new duties will more than double the number of sites requiring regulation and may affect its ability to effectively regulate across all sectors of the industry unless its resources are increased.

1.20 In response to these challenges and the increase in its workload, the Agency is seeking to introduce "modern regulation": to improve its approach to existing regulation and to release staff to provide some of the extra resources required by these new duties. In early 2002, for example, it began to implement its project BRITE (Better Regulation Improving The Environment) across all its environmental protection activities. This will, for example, strengthen the national teams working on policy development and operational support. Part of their role will be to work together to simplify licence arrangements, ensure consistency

⁶ London boroughs, county councils, unitary authorities and metropolitan districts.
⁷ Council Directives 99/31/EC and 96/61/EC.

between area offices and help with the training and development of staff. The Agency is also planning to deal with applications for some of the simpler licences at a national level and is also considering introducing Strategic Permitting Teams, initially for landfills, as a means of addressing peaks in work-load. The Agency is also seeking to increase reliance on an auditing approach based on a review of operators' management systems and monitoring data produced by operators.

1.21 The Agency expects that over a five year period BRITE will deliver net productivity gains equivalent to some 200 full time staff across all Environmental Protection regimes, worth at least £14 million a year, which will be available to help with the Agency's new statutory duties. The Agency believes that further progress will be dependent on the Department amending existing statutory guidance and securing changes to legislation, in particular, to allow a more flexible and proportionate approach to the regulation of licensed and exempt sites and to the introduction of charging for its regulatory activities on some exempt sites. The Department is currently reviewing a range of proposals made by the Agency but, due to resource constraints the Department's progress is quite slow. Even with these developments, the Agency believes that it is still likely to need additional resources to implement the new duties.

Our scope and methodology

1.22 Against this background, we examined two issues:

- how the Agency deals with pollution from waste;
- whether the Agency has been successful in raising standards of waste management.

1.23 Our methodology is summarised in Appendix 1. We did not examine radioactive waste, which is regulated by the Agency and the Health and Safety Executive; sewage, which is also regulated by the Agency but under a different regulatory regime; international movements of waste; or action to reduce the production of waste, which has been the subject of a recent review by the Cabinet Office Strategy Unit. The Agency is accountable to the National Assembly for Wales for regulating waste in Wales. Accordingly, our examination and case studies focused on the Agency's work in England. However, the Agency's monitoring systems collect information for England and Wales, rather than just England, so quantitative information in this report relates to both England and Wales except where otherwise stated. Our findings regarding the Agency's organisation and methods will also generally be applicable to Wales as well as England.

1.24 During the study we were advised by Professor Howard Wheater, head of the Centre for Environmental Control and Waste Management at Imperial College and Professor David Briggs, Department of Epidemiology and Public Health, Imperial College Faculty of Medicine. We also had regard to the approach taken towards waste regulation in other countries (Appendix 5).

1.25 This report has followed our examination of the Landfill Tax Credit Scheme.⁸ Under this scheme, operators can claim tax credits of up to 90 per cent of their contributions to environmental projects. Credits claimed in 2000-01 totalled £109 million. The Committee of Public Accounts published its report on the scheme in July 2002⁹ and the Government's response is awaited. Our examination also took into account the findings of our August 2000 report on how government departments identify and manage risk.¹⁰

⁸ C&AG's Report on the Appropriation Accounts 1999-2000, Volume 16 (HC 25-XVI, Session 2000-01).

⁹ PAC 47th Report 2001-02 (HC 338).

¹⁰ Supporting innovation: Managing Risk in Government Departments (HC 864 Session 1999-2000).

Part 2

Dealing with pollution from waste

2.1 One of the key aims of waste regulation and of the Waste Framework Directive is to ensure that waste management facilities do not cause harm to health and the environment, and to take appropriate action when pollution occurs, including legal action when appropriate. We therefore examined:

- trends in the number of pollution incidents caused by waste;
- whether the Agency deals effectively with pollution incidents involving waste;
- the Agency's legal powers to deal with unsatisfactory waste management;
- trends in the Agency's use of these powers;
- current issues affecting the effectiveness of the Agency's use of its legal powers.

Around 20,000 waste pollution reports a year are investigated by the Agency, but changes in recording systems makes analysis of trends in incidents unreliable

2.2 No information is available on the amount of pollution involving waste before the Agency's establishment in 1996. The Agency operates an Emergency Hotline (0800 80 70 60) for members of the public, or other agencies, to report pollution of any type. Historically, waste is involved in around 35 per cent of all pollution reports received by the Agency. In 2001-02, the Agency received 48,000 pollution reports, of which some 20,000 will have involved waste.

2.3 Since 1999 the Agency has monitored the seriousness of pollution incidents as well as the number of reports received. After incidents have been investigated by the Agency, their environmental impact is classed as one of four categories (**Figure 7**). The great majority of waste reports investigated by the Agency are found to be either unsubstantiated or are assessed as having no or minimal impact - only two per cent of waste reports in 2001-02

were classified as major or significant incidents. Examples of incidents classified as major or significant include: a fire at a paper recycling facility and the fly tipping of six cubic metres of asbestos insulation board and cement bonded asbestos sheeting on vacant land. In 2001-02 the Agency recorded 3,900 substantiated incidents at waste management sites of which some 400 incidents (10 per cent) were assessed as posing a serious or significant risk to health or the environment.

2.4 We found, however, that the Agency's recording of waste incidents is limited by a variety of problems:

- An internal review in 2000 found that a third of the most serious environmental incidents (major and significant) should have been assessed in a lower category. As a result, the large fall in serious incidents, from 581 in 1999-2000 to 406 in 2000-01, may reflect improved accuracy in the grading of waste incidents rather than a genuine reduction in the number of such incidents. A further review in August 2002 found a significant improvement in the correct classification of major incidents.
- Not all waste related incidents are recorded. For example, incidents identified during inspections at waste sites may be categorised as licence breaches rather than as incidents. In addition, key information, such as information identifying the licence concerned, was often not recorded.

7 The Agency's Incident Classification System

Each incident is assessed by the Agency and placed in a category determined by its impact on the environment or people

Category 1: Major long-lasting or extensive damage to the environment or people

Category 2: Significant effect on the environment or people

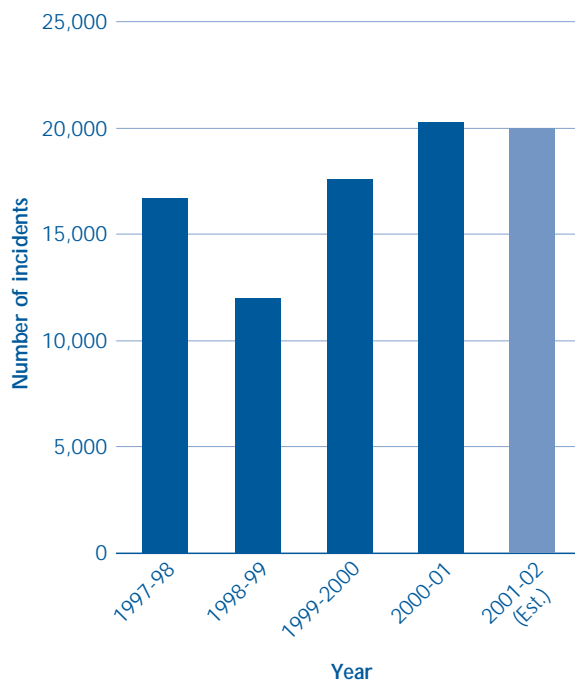
Category 3: Minimal effect on the environment or people

Category 4: No impact occurred

Source: The Environment Agency

8 Reports of waste pollution investigated by the Agency

The number of reported pollution incidents involving waste has increased since 1997-98



NOTE

Monitoring began on a manual basis in 1997-98. The low number of incidents recorded in 1998-99 appears to be due to incomplete recording following the introduction of new computer based monitoring systems. The total for 2001-02 is estimated as the Agency's revised recording system no longer distinguishes reports of potential waste incidents from reports of other kinds of pollution.

Source: Environment Agency

- Some incidents can be classified either as "waste" incidents or as "water" incidents. Some major incidents at licensed waste sites are classified as "water" incidents because there was a threat to nearby water courses.
 - The level of detail recorded on incidents varied, but was often inadequate to allow us to evaluate whether the incident was accurately assessed and any risk to the environment dealt with.
- 2.5 The total number of waste pollution reports received has increased since the Agency began monitoring: from 16,700 in 1997-98 to 20,270 in 2000-01, an increase of 21 per cent (Figure 8). However, as a result of the problems described above, the Agency's monitoring gives some indication of the total number of reported incidents but detailed analyses of the statistics need to be interpreted with caution. In addition, major changes in the way that the Agency recorded and analysed potential incidents in 1998-99 and during 2001-02, make it difficult to determine whether there is any clear trend.

2.6 The Agency has recognised the need to improve its incident recording system so as to allow more detailed analysis of incidents and reliably to track trends. It implemented significant improvements to the system during 2001-02, including details of all licensed waste premises and additional information on enforcement action taken. The Agency has also developed a Compliance Classification Scheme to record the nature and severity of licence breaches, which will help to address this issue. However, it was too early at the time of our examination to assess whether these had been wholly successful in remedying the deficiencies described above. In addition, the Agency is now carrying out a review of the environmental impact of all major incidents that have occurred and the way in which they were handled.

Fly tipping remains a common problem

- 2.7 A common area of public concern regarding waste is the type of incident known as 'fly tipping'. The term fly tipping has no legal significance but is used widely to describe the illegal dumping of waste without the landowner's permission, or on public land, for example by the roadside. The Agency estimates that there may be over 50,000 fly-tipping incidents a year, costing local authorities between £50 million and £150 million to investigate and to dispose of the waste deposited. Only a small proportion of these incidents are reported to the Agency.
- 2.8 Both local authorities and the Agency have powers to dispose of fly tipped waste and can prosecute those responsible, but the Agency has stronger investigatory powers. In August 1998 the Agency agreed with the Local Government Association a protocol (Figure 9) under which the Agency is mainly responsible for dealing with larger deposits of material, sensitive locations or hazardous waste. It will also investigate cases where the initial local authority investigation reveals evidence of the offender's identity, while other cases should be dealt with entirely by the local authority (Levels A or B of the protocol).
- 2.9 Fly tipping is typically the result of a wish to avoid the cost of legitimate disposal or the need to transport waste to a legal facility. UK landfills are amongst the least expensive in Europe: charges for accepting inert or non hazardous waste are typically between £12 and £38 per tonne (including landfill tax of up to £13 per tonne in 2002-03)¹¹ However, disposal of hazardous chemicals can cost up to £100 per drum. Local authorities have been concerned that fly tipping may have increased, particularly since the introduction of the Landfill Tax in 1996 and the resulting increased cost of legitimate waste disposal.

9 Fly tipping response agreed by the Environment Agency and the Local Government Association

Level	Typical incidents	Agency Responsibility	Local Authority Responsibility
E	Incident involving leaking chemicals or fibrous asbestos.	Emergency response. Remove waste and investigate.	Refer incident to Agency.
D	Large scale dumping of inert wastes on watercourse or near occupied buildings. Clinical waste, oils and chemicals.	Investigate. Inform local authority for possible removal.	Remove waste if on public land: refer incident to Agency for investigation.
C	Larger quantities of domestic or inert waste.	Refer incident to local authority. If authority discovers evidence, Agency responsible for investigating.	Remove waste if on public land: pass evidence (if any) to Agency
A/B	Litter, domestic waste and small quantities of inert or other non-hazardous waste.	Refer incident to local authority.	Remove waste if on public land: investigate possible offences.

Source: *The Environment Agency*

2.10 In 1998 the Agency undertook a collaborative study with EnCams (formerly the *Campaign for Tidy Britain*), which found that about 60 per cent of the local authorities surveyed thought that fly tipping had increased since the introduction of the Landfill Tax. A further study in 2000, by ECOTEC Research and Consulting Limited, also found some anecdotal evidence of increased fly tipping and abuse of civic amenity sites. However, the Agency and the Department consider that as most fly tipping is of domestic waste, and householders are not subject directly to the landfill tax, it is unlikely that the tax has significantly increased fly tipping. The Agency's monitoring of environmental incidents since 1999 has not shown any clear trend in incidents involving commercial and hazardous waste. However, the Agency predicts an increase in all types of fly-tipping over the next 10 years because it expects the cost of legitimate waste disposal management costs to increase significantly in response to rising environmental standards. The Agency has some evidence of the involvement of organised groups in large-scale fly-tipping, some with suspected links to other criminal activities.

2.11 Under Section 5 of the *Environment Act 1995* Act the Agency has the power to compile information on the environment. At the moment, neither local authorities nor the Agency collect information on the total number of fly-tipping incidents. The Agency's incident recording system shows that around 3,400 fly tipping incidents were reported to it in 2000-01. Data on the number of incidents reported are not available before 1999-2000 and the Agency believes that the number of fly tipping incidents reported to it by the public and local authorities, is less than 10 per cent of the actual number occurring. The Agency is reviewing its fly-tipping protocol with local authorities, including discussions on local authority use of the Agency's incident recording system.

2.12 To help it address these issues, the Agency has established a national team responsible for enforcement practices. This team will carry out a systematic review of the Agency's performance and will share best practice to area offices. It will include an Environmental Crime Unit which will have the task of improving the quality of information available on environmental crime, including the more serious fly tipping incidents, through a combination of better analysis of information and intelligence, and establishing more extensive networks with other enforcement agencies.

The Agency has a wide range of powers to deal with unsatisfactory waste management

2.13 The Agency has two aims when it discovers unsatisfactory waste management. Firstly to protect human health and the environment, and secondly to investigate suspected perpetrators and, if appropriate, to prosecute them. The Agency has a wide range of powers which it uses to achieve these aims.

2.14 The Agency's use of its powers is governed by its published enforcement and prosecution policy, approved by Ministers in October 1998. The Agency's stated aim is firm but fair regulation through the application of:

- proportionality in the application of the law and in securing compliance;
- consistency of approach;
- transparency in the way the Agency operates and what those regulated may expect from the Agency;
- targeting of enforcement action.

2.15 The Agency's enforcement and prosecution policy sets out the criteria to be applied in deciding whether to prosecute. For example, prosecution is the recommended option for incidents that have caused, or could have caused, significant damage to the environment. And, where there is sufficient evidence, the Agency's policy is normally to prosecute waste offences involving fly tipping or the mis-handling of hazardous waste.

The Agency has increased its use of prosecutions but is concerned at the level of fines imposed by the courts

2.16 The Agency has the power to enforce licence conditions and take action against those handling waste illegally. Such action may take a number of forms ranging from verbal advice, through written warnings, to prosecution. The Agency has the power to prosecute 71 criminal offences under waste legislation, in most cases under the *Environmental Protection Act 1990*. The offences include causing pollution, depositing waste without a licence, breach of licence conditions and breach of waste regulations. Under a "duty of care" created by the Act, producers of waste can also be prosecuted if they do not ensure that those whom they employ to take away their waste deal with it properly. Magistrates' Courts can fine offenders up to £20,000 for each offence and impose prison sentences of up to six months. The Crown Court can impose an unlimited fine and imprisonment for up to two years (five years if hazardous waste has been involved).

2.17 Since the establishment of the Agency in 1996, the number of successful prosecutions each year has increased from 241 to 466, an increase of 93 per cent (Figure 10). The Agency can also caution offenders: in 2001-02 it issued 179 cautions for waste offences. Individual prosecutions for waste-related offences are highly resource intensive given the required quality of evidence and of case files. All enforcement work is funded by DEFRA and the National Assembly for Wales. If the Agency is to continue to expand this activity, greater efficiencies in case preparation or alternative approaches to enforcement will be needed if higher resource needs are to be avoided. The Agency has already introduced measures to reduce the amount of work needed to prepare case files.

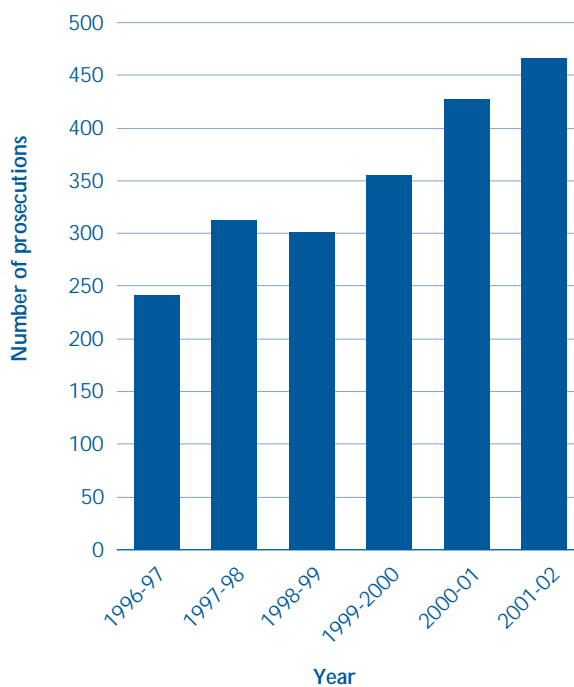
2.18 Most of the increase in prosecutions and fines follows the adoption of the Agency's Enforcement and Prosecution policy in October 1998, and from 2000-01 the setting by the Agency of a target to "take rigorous enforcement action against anyone who disposes or recovers waste unlawfully". The Agency does not yet routinely monitor

centrally the extent to which major or significant pollution incidents have led to prosecution, although this is undertaken at a regional level. In 2003, the Agency's regional enforcement and incident tracking systems will be linked, providing the capability for central monitoring. An internal review in 2000 found that a decision had been reached not to proceed with a prosecution in more than half of the serious cases in which the offender was known, in most cases due to a lack of evidence. Prosecution had occurred in only 23 per cent of cases with a further 17 per cent still to be decided.

2.19 The Agency followed up this review in August 2002 and found significant improvements in the performance of its regions: 53 per cent of the major incidents scrutinised had resulted in prosecution, with another 20 per cent still under investigation. In the 7 per cent of major incidents where no enforcement action was taken, appropriate reasons were recorded including, for example, because another regulator had taken over lead responsibility or because of public interest factors, for instance the age of the offenders.

10 Successful prosecutions for waste offences: 1996-97 to 2001-02

The number of prosecutions in which the Agency secured a conviction has increased since 1996-97.



Source: Environment Agency

2.20 The adequacy of sentences for environmental crimes has been the subject of criticism by the Environment Select Committee since 1997. The Government and Agency have responded in several ways:

- In July 1999 the Home Secretary directed the Sentencing Advisory Panel¹² to provide advice to the Court of Appeal on sentencing for some environmental offences including those involving air or water pollution and the illegal deposit, recovery or disposal of waste (including fly-tipping). In March 2000 the Panel issued advice to the Court of Appeal on these offences, with a view to the Court issuing a sentencing guideline.
- The Magistrates' Association has issued a note to Magistrates' Courts on sentencing for environmental offences. This was prepared by the Department and the Agency in conjunction with the Association and has been incorporated in the Sentencing Handbook available to all Magistrates.
- The Agency has provided a training note on sentencing to the Magistrates' Association, which the Association is now considering whether to issue to members.
- The Agency is carrying out a series of presentations to Magistrates' Courts to increase awareness of environmental crime.

2.21 Penalties imposed by the courts vary considerably: the highest waste fine to date imposed on a landfill operator is £87,000 but penalties are generally much smaller - the average fine imposed in 2001-02, for example, was £3,004 (an increase of 165 per cent from £1,132 per case in 1996-97). While welcoming the trends, the Agency and Ministers continue to express concern over the adequacy of fines for waste offences. The Agency is particularly concerned that the level of fines for the illegal disposal of waste can be small compared with the profits that operators acting illegally can make in a short space of time by avoiding the charges made at licensed sites (typically between £12 and £38 a tonne).

The Agency has other powers of enforcement

2.22 Prosecution serves to punish offenders but often separate action is needed to put right problems of unsatisfactory waste management. The Agency's response to such problems naturally depends on their severity and the risk to health and the environment. Minor problems, where there has been no significant environmental harm, will normally be dealt with informally by speaking or writing to the operator

concerned. The number of problems dealt with in this way is not monitored centrally. More serious or persistent problems should trigger formal action. The Agency has monitored its use of such action centrally since 1999. Formal action may take a number of forms:

- **Issuing enforcement notices** to require operators to take action to prevent or remedy breaches of licence conditions or regulations, for example when they have not responded voluntarily to a request for action. Enforcement notices were issued 235 times in 2001-02, compared to 159 in 1999-2000.
- **Requiring remedial work to be done**, for example to clear waste away. In 2001-02, the Agency issued 121 notices requiring polluters or landowners to remove waste (247 in 1999-00) and successfully prosecuted 13 offences of failure to comply. In two cases the Agency carried out works with the intention of recovering the cost from the offender. However, in many of these cases the offenders are unable to pay (**Figure 11**).
- **Suspending or revoking licences**. In 2001-02, the Agency suspended licences on 15 occasions, compared to 18 in 1999-2000. However, the Agency does not normally revoke licences as this absolves the licence holder of further responsibilities under the licence, potentially leading to further problems.

11 Difficulty in recovering the cost of remedial works

On 19 March 1999, the local Borough Council informed the Agency that construction waste was being dumped on a floodplain of the River Wey. The occupant of the land told the Agency's Flood Defence Officer that he was importing material in order to level hollows in the ground to allow all year access to farm machinery. The deposits were up to 2 metres thick. He was informed that he required a Land Drainage Consent to carry out this work and the Agency issued a notice on 15 April preventing further deposits. In May the Crown Court ruled that he must obtain planning permission or remove the waste by 31 August.

In June the Agency noticed that the construction material was contaminated with Japanese Knotweed, a highly aggressive foreign species. In July, the Agency sprayed the site without the occupier's consent. It obtained a court order allowing it to remove the waste and began the works in October. The occupier attempted to stop the removal of the contaminated topsoil and the Agency obtained a second order allowing its removal. He also sought an injunction halting the works, which was refused.

The operation involved 650 man-hours of Agency time and incurred costs of £164,000 to remove the waste to a licensed landfill. As the occupier held the land on a lifetime lease from his sister and had no other means, the costs were not recoverable.

Source: National Audit Office sample of cases

¹² The Sentencing Advisory Panel is an independent, advisory and consultative non-departmental public body set up to provide advice to the Court of Appeal on sentencing guidelines, with the aim of promoting greater consistency in sentencing.

- **Amending licence conditions**, for example to secure a permanent change in working practices at a site in the future. A large proportion of the 246 licence amendments made by the Agency in 2001-02 were the result of a wish to improve waste management at the sites concerned, in some cases following pollution incidents.
- **Issuing a formal caution** to individuals or companies found to be breaking the law. In such cases the Agency applies similar rigour to its investigations and file preparation as for a prosecution. However, not going to court can save significant time and money although it is only relevant for less serious offences.

2.23 The Agency recognises that even well run waste sites experience minor problems from time to time. For sites which have frequent minor problems which do not individually justify prosecution, licence revocation or issuing enforcement notices, the Agency is able to issue warnings and cautions and can take further legal action if operators do not heed them.

2.24 Other countries we reviewed found similar problems, but some have provided an intermediate level of sanctions by giving their waste authorities powers to levy spot fines for minor licence breaches (Figure 29). Regulators in other industries also publicise the compliance record of operators so that pressure from the public and investors can supplement the more formal powers of the regulator. The Office of Water Services (OFWAT), for example, use information from the Agency and the Drinking Water Inspectorate to publish annual league tables of water companies' performance in providing high standards of drinking water and sewage treatment. The Agency produces an annual publication called *Spotlight on the Environment*. This highlights the worst environmental offenders and also describes the good environmental practice in individual sectors. The Agency issues a press release for each successful prosecution and publishes annual league tables of the worst offenders. In addition, the Agency intends to publish its assessment of each waste site it regulates from April 2003.

The Agency could use its powers more effectively

2.25 The greater number of convictions and value of fines since 1996 indicates that the Agency is increasing its efforts to ensure the punishment of those guilty of waste offences. However, several issues continue to limit the effectiveness of its prosecution and enforcement work.

The Agency does not always take effective action against unlicensed sites

2.26 When the Agency discovers illegal waste sites it prefers to encourage the operators to apply for a licence rather than prosecute immediately, because the licensing system provides it with greater control over operators than the threat of prosecution. The Agency will therefore not normally prosecute the operator of such a site provided that he or she applies for a licence within ten days. Nevertheless, during 2000-01 the Agency prosecuted 279 cases and secured convictions of individuals and companies on 563 charges of operating without a waste licence, suggesting that some operators may simply be taking advantage of the period of grace given to them to continue to operate illegally. During our examination we found a number of cases in which the Agency's 10 day rule had clearly not been followed (an example is at **Figure 12**).

12 Example of taking action against operators of illegal waste sites

Following complaints from members of the public, in May 2000 Agency inspectors visited two sites used by Turnaround Recycling Ltd for collecting and recycling dry household waste (paper, glass, metal, plastics and clothing) under contract to West Lindsey District Council. The inspectors expressed concern that some 800 tonnes of unsorted materials had accumulated on the sites, site security was poor, the sites were not licensed and they were not being managed by a technically competent person.

Two statutory notices were served on the company by the Agency, but the Company argued that the sites did not require a licence and waste recycling continued despite the issue by the Agency of three statutory notices and several further site visits by inspectors. In August 2000, inspectors met Council officers who appeared to agree that they should stop dealing with the company unless a waste management licence was obtained. However, no application for licences was received and the waste activities continued. The Environment Agency wrote to the Chief Executive of the Council in November 2000 and in December 2000, following a fire at one of the sites, the Council terminated the contract with Turnaround.

The case was heard in the Crown Court at the request of Magistrates. Following adjournment, the defendants were sentenced on 18 January 2002. West Lindsey District Council, was fined £5,000 for failing to observe its duty of care, and ordered to pay costs of £2,617 to the Agency. Turnaround Recycling Ltd was fined £6,000 and ordered to pay costs of £4,710. In addition, the company's sole director was fined £14,000 and ordered to pay costs of £16,485.

Source: Environment Agency

The Agency takes too long to bring cases to court

2.27 In 2000, the Agency set itself targets for processing legal case-files:

- unless complex or unusual, a case-file should be submitted to the regional legal teams within three months of the offence being committed;
- the legal team will begin legal action within two months of receiving a case-file (provided there has been no need for any further investigations).

In general, cases should not be proceeded with where there has been an unjustifiable delay of 12 months or more.

2.28 Until 2002, the Agency did not monitor the progress of legal cases centrally and we found that only two regions collected data on their performance against this target. The information collected by these regions suggested that the average time taken from an offence being committed to a conviction being secured reached over 18 months at the end of 2000-01, and that at that time, the average time taken to submit a file to the legal team was nearly a year. We also found a number of cases had been presented to the legal teams beyond this date due to the severity of the offences. Following work to streamline the process of bringing cases to court, the Agency's review of enforcement in August 2002 found somewhat better performance. It found that the Agency took an average of 7.8 months from the start of an investigation to the issue of a summons at Court. Of this, 5.3 months was taken for the area-based staff to conduct their investigation, prepare the case file and submit this to the legal department. The time taken to bring a case to court can be influenced by delays in the courts and because defendants frequently request adjournments. However, the Agency proposes to introduce a National Case Management System from October 2002 which will allow regions to monitor prosecution time scales on a consistent basis.

A major internal review concluded that the Agency has not implemented its prosecution and enforcement policy consistently

2.29 The Agency launched a major review of the operation of the enforcement and prosecution policy in May 2000, some 18 months after its introduction. The review was carried out by eight teams each led by a regional solicitor. The Agency's internal audit team co-ordinated the results nationally and prepared a report on the main findings. The results covered all environmental protection work including waste, process industry regulation, radioactive substances and water pollution.

2.30 The principal findings of the review were:

- Data quality was poor and over a third of the incidents recorded as involving serious environmental harm should have been given a less serious classification.
- There was inadequate documentation of the reasons for decisions and for departures from the enforcement and prosecution policy.
- Often prosecution action had not been taken when required by the policy.
- There was a need to ensure that investigations of incidents were sufficiently thorough, especially for serious incidents, and to train staff in the requirements of the *Police and Criminal Evidence Act* and the *Criminal Procedure and Training Act*.
- There was a lack of consistency and interpretation over whether to prosecute or not.

2.31 The findings of the review were accepted by the Agency and a national action plan drawn up to address the issues, including improved training for staff and the introduction of a National Investigations Manual. The review was repeated in August 2002 and found a generally much improved situation. The percentage of major incidents resulting in prosecution had risen from 25 per cent to a minimum of 53 per cent and this figure may rise even further as a result of the 20 per cent of cases still under investigation at the time of the August 2002 review.

2.32 The review also found that the correct classification of significant incidents had risen from 76 per cent in 2000 to 84 per cent in 2002. However, one in seven incidents were still wrongly classified as serious or significant, and the review highlighted key management issues which still needed to be addressed including data quality, the lack of a national focus for enforcement issues and the need to improve management of repeat breaches. The review also found that few prosecution cases were submitted to regional legal teams within three months although most prosecutions were commenced within 8 months of the offence. The Agency considers that as a result of the BRITE re-organisation this will improve due to the establishment of a national enforcement team (paragraph 2.12 above).

The Agency is slow to deal with sites with persistent problems

2.33 The May 2000 review (paragraph 2.29) found limited evidence of any previous enforcement history being taken into account when deciding appropriate actions in response to breaches. The review recommended that better record keeping, including site histories, was needed to ensure suitable enforcement action against repeated incidents or breaches of licences.

2.34 Groups we consulted representing people living near waste sites also raised the issue of sites with repeated problems. Many landfills are subject to frequent complaints from local residents over odour, litter and pests (including flies and birds). Many of the environmental groups who submitted evidence to us said that they did not believe that the Agency pursued environmental and licence breaches with sufficient vigour, and some accused the Agency of representing the interests of the operator rather than local residents.

2.35 The importance of the Agency's response to sites with repeated problems is highlighted by analysis of the locations of waste pollution incidents, which shows that such incidents are concentrated at a small number of sites with a large number of incidents. In total there are 7,700 licensed sites but in 2000-01, for example, substantiated incidents were recorded at only 935 sites (mainly licensed sites, but including some exempt or illegal sites). Major or significant incidents were recorded at 218 sites, and nine sites accounted for 35 per cent of all such incidents (Figure 13). Three of these sites had also accounted for five or more such incidents in 1999-2000 and one of the sites led to 50 reports of significant incidents in July 2001.

2.36 However, the Agency's statistics need to be interpreted with some caution. Some of the operators disputed the Agency's view of the severity of the problems at their sites which had not been agreed with them at the time. There was insufficient detail recorded to determine whether the very high number of incidents at some sites

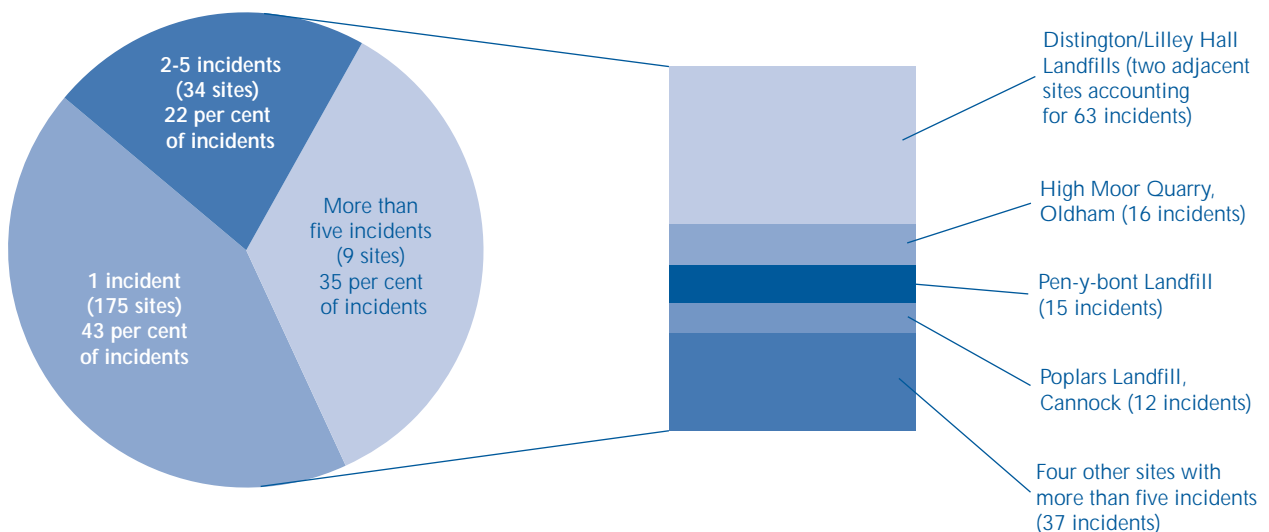
reflected multiple reporting of a few incidents, a more systematic problem at these sites, or an active residents' association. The operator of one of the Distington sites told us that, since 2000-01, it had invested £1.5 million in equipment to deal with odour problems. Nonetheless, these statistics illustrate the extent to which the problems recorded by the Agency are focussed on a small number of sites and how, in any given year, most sites give rise to no incidents at all.

2.37 Under the 1990 Act, the Agency has limited powers to revoke waste licences. We found that the Agency normally uses oral advice and notes made on inspection report forms to address poor performance found during inspections, and uses written warnings or formal enforcement notices in more serious cases. It has three main responses open to it when it decides that problems at a site have become unacceptable:

- modify the licence or serve notice requiring compliance with the licence or specified actions to be taken;
- prosecute the manager of the site, the licence holder or both (in cases where the licence holder is a company, the Agency may prosecute the directors of the company), or, where their actions have given rise to problems, the Agency may prosecute a third party;
- suspend or revoke the operator's licence; however the law only allows the Agency to suspend or revoke a licence in certain specified circumstances; the

13 The number of waste sites at which one or more major or significant incidents were recorded in 2000-01

Nine sites accounted for nearly a third of serious or significant incidents in 2000-01.



Base: 218 sites at which serious or significant incidents (406 in total) were recorded in 2000-01.

Source: National Audit Office analysis of Environment Agency data

Agency is reluctant to revoke a licence as revocation absolves the licence holder of further responsibilities under the licence.

2.38 Prosecutions of licence holders are comparatively rare - only seven per cent of prosecutions in 2001-02 were for breaches of licence conditions (Figure 14). The most common waste offence prosecuted by the Environment Agency involves disposing of or treating waste without a licence, which accounts for more than half of the total in 2001-02. This category includes operating illegal waste tips, transfer stations and other activities which require a waste licence, and fly tipping offences.

2.39 *The Environmental Protection Act 1990* allows the Agency to exclude persons convicted of relevant offences from managing licensed waste sites and the Department has issued statutory guidance on the application of the "fit and proper person" test. However, we saw no file evidence of the Agency formally considering whether a site operator convicted of waste offences remained a suitable person to run a waste site. In 1997 the Agency trialled a point system, similar to that used for driving offences, for this purpose in one region. However, it concluded that the system was not consistent or fair because of the wide range of possible mitigating circumstances and because operators of multiple sites are more likely to be prosecuted than operators of a single site. The Agency is therefore developing proposals for the consistent and fair application of this test which will be subject to public consultation shortly.

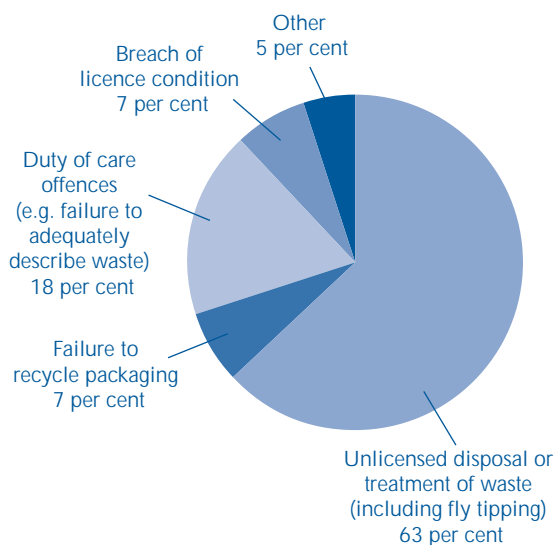
2.40 In its approach to prosecution, the Agency distinguishes in practice between offences committed by carrying out activities that are by their very nature illegal, such as fly-tipping, and offences that result from problems with the operation of legal activities, such as breaches of the conditions in site licences. It also takes into account the seriousness of the harm caused. For example, a breach of a condition that is unlikely to lead to environmental harm is considered less serious than a breach that leads to a direct environmental impact.

2.41 Due to the difficulty in operating licensed sites without occasional breaches of licence conditions, the Agency generally considers such breaches to be less serious than illegal waste disposal provided that minimal harm is caused. However, such an approach carries the risk that persistent minor breaches may pass uncorrected. A recent review of its prosecution policy found that inspectors rarely took into account the history of the site in determining the need for enforcement action. For example, at one licensed waste site, inspection staff had identified 56 minor breaches of licence conditions in the 16 months before a major fire (which required the evacuation of 60 residents from neighbouring properties) without the breaches triggering formal enforcement action, although it had almost finalised a revision of the waste management licence and the operator's working plan for the site. The cause of the fire is not known and the Agency believes that there is no evidence that these breaches contributed to the cause of the fire.

2.42 In 2002, the Agency implemented standardised arrangements for categorising the severity of licence breaches (Figure 15) and is considering providing greater clarification for staff and operators of how it will respond to particular categories of breaches. The system has been the subject of public consultation and is due to be commenced, as a pilot, from 1 October 2002 and will be applied to all Agency functions from 1st April 2003. It will apply to all Agency permits including waste licences and will enable the Agency for the first time to classify the severity of non-compliance according to the actual and potential risk to the environment and human health. It will also be linked to the published Enforcement and Prosecution Policy and will provide a clearer audit trail linking non-compliance and enforcement action.

14 Waste offences prosecuted 2000-01

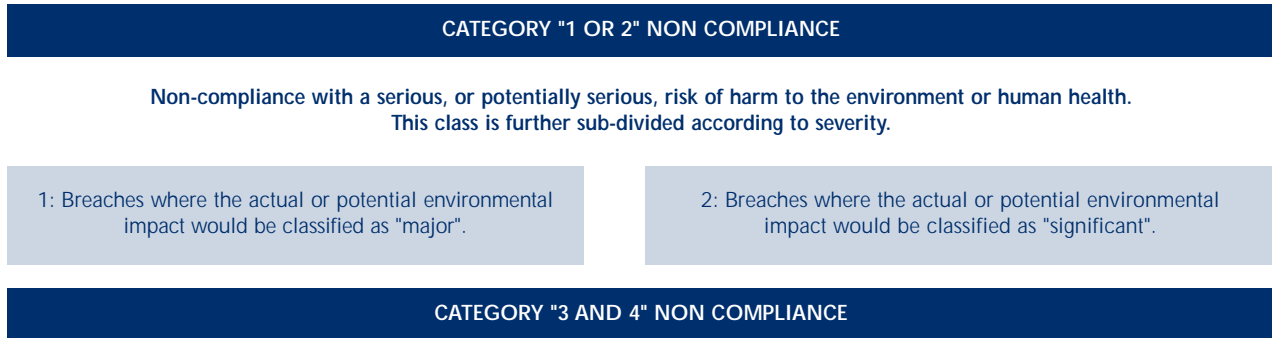
The most common waste offence prosecuted by the Agency involves disposing or treating of waste without a licence



Source: NAO analysis of Agency prosecutions

15 Classification Scheme for licence breaches

The Agency is introducing an improved scheme for assessing the environmental impact of licence breaches which will provide the basis for the decision to prosecute offenders or take other enforcement action.



All non-compliances other than those assigned to "category 1 or 2". No further sub-division of this class is made.

Source: The Environment Agency

The Agency does not always achieve its targets for responding quickly and effectively to pollution incidents caused by waste

2.43 To ensure that potential damage to the environment is minimised, and that evidence can be collected, potentially serious incidents are classified by the staff manning the Agency's Emergency Hotline as "Immediate" and the Agency's target is to attend at the incident site within two hours (four hours outside office hours). **Figure 16** gives an example of the type of action taken. Less urgent incidents are graded as requiring attendance within between 24 hours and two weeks. Around a third of reported incidents are initially assessed as requiring no response.

2.44 Agency staff can record response times for incidents and since 2001-02 have been instructed always to do so. We found that in 2000-01 almost a third of the 4,909 incidents originally assessed as requiring an immediate response did not have the date and time of attendance recorded. Where the date and time were recorded, only 79 per cent of "immediate" incidents in 2000-01 had been attended within target and seven per cent were attended more than 24 hours after the Agency was notified of the incident. 87 per cent of less urgent incidents were attended within the target set for such incidents.

16 An example of the Agency's prompt response to a waste incident

At 15:00 hours on 9 November 1998 the Agency received a report that chemical drums and other containers had been dumped in a field near Besford, Worcestershire. Agency staff attended at the site within 45 minutes. Over 200 containers were removed to a licensed waste transfer station for processing and disposal. However, samples taken by the inspectors confirmed that a cyanide solution had leaked from some of the containers. A mechanical excavator was hired by the Agency and removed 73 tonnes of contaminated topsoil. Nearby watercourses were also tested to ensure that the pollution had not spread beyond the site. The removal of all contaminated materials was completed by 22:00 that night, at a cost of £7,000.

Source: NAO review of regional legal files

Part 3

Raising standards in the waste industry

- 3.1 The Environment Agency seeks to promote and secure best practice in the waste industry by a combination of education, licensing, inspection and enforcement. To assess the achievements of the Agency in raising standards in the industry, we examined the Agency's actions in the following areas:
- improving technical standards of waste site design and operation;
 - improving the competence and suitability of operators;
 - improving its own performance in processing applications for, and amendments to, licences;
 - inspecting waste activities to ensure compliance with licences and the law.
- 3.2 The *Environmental Protection Act 1990* requires operators of waste facilities to obtain a licence from the Environment Agency, unless exempted from this requirement by regulations. The licences authorise the treatment, keeping or disposal of waste in or on the land or by way of mobile plant. Once the Environment Agency has issued a licence, the activities may not be changed unless a modification is issued, or agreed to, by the Agency. Attached to licences are a number of conditions that set standards for site operations, for example, the types and quantities of waste to be accepted, security arrangements, ground engineering, emission monitoring requirements, amenity management (dust, odours and pests) and the keeping of records. In most cases, a working plan is also agreed between the operator and the Agency setting out detailed procedures on how the site is to be managed. Additional requirements are imposed by regulations, of which the most important are the *Waste Management Licensing Regulations 1994*, and the Agency must have regard to guidance issued by the Secretary of State under the Act.
- 3.3 When the Agency took over responsibility for waste regulation in April 1996, it inherited some 7,300 licences written by 83 different waste regulation authorities. In the following years, the number of new licences issued exceeded the number surrendered by operators, with the result that the number of licences in force has risen to a total of 7,700 licences at 31 March 2002, the great majority issued before April 1996 (**Figure 17**).
- 3.4 The licence is an important tool for ensuring high standards of waste handling, and provides the means by which the Agency can influence the construction and operation of sites. However, many of the licences inherited by the Agency in 1996 did not reflect current best practice. There also is some evidence of environmental harm being caused by sites and activities that in accordance with the current legislation are registered with the Agency as exempt from the requirement to have a licence.
- 3.5 We therefore examined:

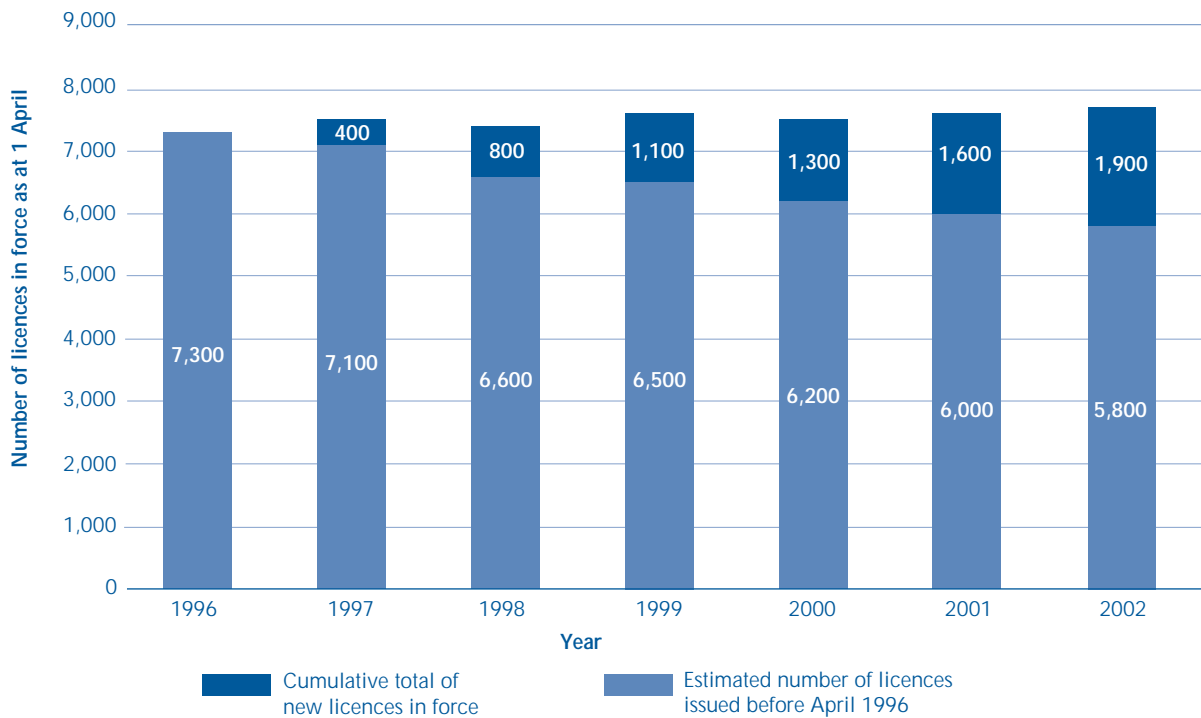
- the Agency's use of its scrutiny of applications for licences to influence the construction and operation of waste sites;
- whether all licences now reflect current best practice;
- the Agency's performance in processing licences;
- how far the controls over exempt sites and activities ensure proper standards of waste management.

The Agency uses licensing to improve standards of waste site design and operation

3.2 The *Environmental Protection Act 1990* requires operators of waste facilities to obtain a licence from the Environment Agency, unless exempted from this requirement by regulations. The licences authorise the treatment, keeping or disposal of waste in or on the land or by way of mobile plant. Once the Environment Agency has issued a licence, the activities may not be changed unless a modification is issued, or agreed to, by the Agency. Attached to licences are a number of conditions that set standards for site operations, for example, the types and quantities of waste to be accepted, security arrangements, ground engineering, emission monitoring requirements, amenity management (dust, odours and pests) and the keeping of records. In most cases, a working plan is also agreed between the operator and the Agency setting out detailed procedures on how the site is to be managed. Additional requirements are imposed by regulations, of which the most important are the *Waste Management Licensing Regulations 1994*, and the Agency must have regard to guidance issued by the Secretary of State under the Act.

17 Licences in force, 1996 to 2002

Of the 7,700 current licences, around 5,800 were inherited by the Agency in 1996



Source: Environment Agency

The Agency uses its scrutiny of applications for new licences to secure modern standards of construction and operation for all new waste sites

3.6 Modern standards of waste site design and operation include a wide range of techniques to prevent or minimise pollution (Figure 18). The Agency seeks to secure the appropriate implementation of these techniques by:

- publishing guidance for present and prospective waste site operators on current best practice and the requirements of the law; applicants for new licences can use this guidance in preparing their applications and draft working plans;
- scrutinising licence applications and draft working plans to check that they incorporate best practice and comply with the law, and agreeing changes to operators' proposals where necessary.

18 Examples of modern techniques for waste management

A: Landfill site taking hazardous or biodegradable waste

Installation of an impermeable lining to minimise pollution of groundwater.

Collection and treatment of leachate and polluted rainwater before discharge.

Regular testing by the operator for landfill gas migration and of groundwater quality.

Constant supervision and regular testing of incoming waste to detect hazardous wastes not authorised by the site licence.

Collection and flaring of methane to reduce global warming and odours and to destroy toxic gases.

Vehicle washing to prevent the escape of mud and refuse onto surrounding roads.

Litter nets to minimise the escape of litter on windy days.

B: Incinerator

Combustion carried out at 850°+ to destroy harmful compounds.

Ash cooled in water to reduce formation of dioxins.

Flue gases treated to remove toxic and acid emissions.

Fly ash collected and dealt with as hazardous waste.

C: Other sites (e.g. waste transfer station)

Sites concreted to prevent contamination of groundwater and soils.

Waste handled in a semi-enclosed building to reduce noise, odours, litter and dust.

Site emptied of organic matter at the end of every working day.

Limits on the amount of waste that may be stored at any one time.

Source: National Audit Office

Providing guidance on best practice and the requirements of regulations

3.7 We discussed the guidance issued by the Agency with industry stakeholders:

- There was wide agreement that the Agency should issue best practice guidance. One large company, for example, said that there had been a significant increase in the amount of guidance being produced by the Agency, and commended the Agency for using external consultants to overcome shortfalls in its resources and expertise.
- Some stakeholders criticised the level of consultation by the Agency before finalising guidance. For example, the Environmental Services Association said that they were unaware of what criteria the Agency used to decide when to consult other stakeholders and that Agency staff sometimes made decisions based on draft guidance which the industry has either not seen or on which it had not been able to comment - such as recent guidance on groundwater protection¹³. Some of the Association's members commented that, in the absence of clear criteria on when to consult, the Agency's communication with the waste industry was "sporadic" and "unpredictable".
- Another large company said that it often only became aware of internal or draft guidance during the determination of applications, and cited slow progress in producing guidance supporting the

introduction of the Landfill Directive and Integrated Pollution Prevention and Control. The Agency told us that the legal basis for the guidance was not published by the Department until June 2002 and this was both incomplete and differed significantly from earlier drafts.

The Agency told us that it did not consider all complaints from industry to be justified. In addition, some waste companies have commented to the Agency that its recent consultations have been "good" and "profitable". However, it accepts that the need to consult the industry on guidance prepared on the implementation of a large number of European Union waste legislation, often to a tight timescale, may have contributed to these criticisms. The Agency has also seconded staff to the Department to assist in waste related tasks.

3.8 The Agency's aim is normally to publish guidance before changes to waste regulations come into effect, but it can only do this when the Department's intentions for implementing new controls are sufficiently clear. For example, this was not the case when new European Union regulation on ozone depleting substances came into force in respect of domestic refrigerators in 1 January 2002 (Figure 19). The Select Committee on Environment, Food and Rural Affairs reported in June 2002 and was critical of several aspects of the processes followed by the Department in the scrutiny and implementation of the European Union regulation¹⁴. Negotiations with the Commission were carried out by

19 Disposal of domestic refrigerators

The UK did not respond effectively to a European Union regulation on substances that deplete the ozone layer

The European Union Regulation (EC2037/00 on substances that deplete the ozone layer was agreed on 29 June 2000 and published in the Official Journal on 29 September 2000. The Regulation requires that any ozone depleting substance that is contained in a refrigerator must be removed for destruction before disposal. While coolant gases have been recovered from waste refrigerators in the UK for some time, the European Commission formally confirmed in June 2001 that the regulations also applied to insulation foam, which typically contains 2-4 times as much ozone depleting material as the coolant circuit.

In November 2001, the Department identified that the control over the treatment of insulation foam would fall principally to waste management licensing but that no treatment standards existed in the UK. The Agency launched the immediate development of standards for the treatment of fridges, (including insulating foam), which were published in April 2002 after a very compressed round of consultation. Since there were no facilities in the UK at the time able to treat refrigerator insulation foam the Agency also published in December 2001 guidance on the storage of waste refrigerators until suitable facilities were available, and developed a "standard licence" for refrigerator storage to allow sites to become operational quickly. Ten fridge treating sites are expected to be operational by the end of 2002.

About 2.5 million refrigerators and freezers are disposed of each year in the UK (about 50,000 a week). The Department provided £6 million to local authorities through Revenue Support Grant as an initial payment to fund the cost in 2001-02 of the temporary storage of waste refrigerators, and has estimated total costs of around £40 million in 2002-03.

The Environment, Food and Rural Affairs Committee said¹⁴ that "We recommend that in future the Government fully assesses the impact of European Union Regulations and Directives before it agrees to them, following the practices it has itself described to us; and that in particular it looks again at the plethora of forthcoming waste disposal Regulations and Directives as a matter of urgency. We further recommend that the Government ensures that in future all relevant stakeholders are consulted as part of the examination of the implications of EU legislation". In an initial response, the Department accepted that the Committee had identified some "valuable lessons" for the Government - but also for the Commission. The Department's final response is summarised in Appendix 4.

Source: National Audit Office

¹³ *Groundwater protection: locational aspects of landfills in planning consultation responses and permitting decisions after 16 July 2001 (Regulatory Guidance Note 3 January 2002).*

¹⁴ *Select Committee on Environment, Food and Rural Affairs, Fourth Report 2001-02, Disposal of Refrigerators, HC 673, published 20 June 2002.*

representatives of the Department. In line with an agreement on the handling of relationships with the European Union, the Agency was not directly involved in the negotiations with the Commission. However, once notified of the outcome, the Agency was able to quickly facilitate arrangements for temporary storage of refrigerators pending availability of appropriate treatment technology in England.

Scrutinising applications for licences

- 3.9 Since 1996, the Agency has issued over 300 new licences for waste sites each year. Applications for waste licences, amendments and transfers are reviewed by specialist licensing officers in Area offices who review the supporting documentation, and draft the licence in consultation with local inspection teams and, when necessary, national teams of technical experts. We found that this process results in sometimes lengthy negotiations with applicants over technical details of the application.
- 3.10 The quality of the licensing files we examined was poor. In part this was because completed files were passed to inspection teams who weeded out material, with the result that the reasoning and evidence supporting decisions to grant licences was not routinely retained. This was despite the Agency having examples of good practice in recording such decisions that could be adopted more widely. In order to improve the consistency of its licensing the Agency has developed pro-forma licences and standard licence conditions for landfill sites and metal recycling centres, and is currently widening the range of waste facilities covered by these. However, on the licensing files we examined we found no evidence identifying and justifying variations from the standard clauses. In addition, there are no standard licences for other common sites, such as waste transfer stations, or for rare types, such as animal cemeteries, of which local staff are unlikely to have had recent experience in licensing or inspecting similar facilities. The Agency told us that it is introducing more proforma licences for use by licensing staff, and plans to re-issue its examples of good practice to its offices to make sure that all staff are aware of them.

Many of the poor quality licences inherited by the Agency have not been fully revised

- 3.11 In 1996 the Agency inherited 7,300 licences issued by 83 local authorities. Although prior to 1996 authorities had received guidance on the content of licences from the Secretary of State, variation in practice between authorities, the passage of time and the introduction of

new regulations meant that after 1996 many licences did not reflect modern best practice. The Agency lacked the resources to carry out the necessary revisions to all licences. Instead it concentrated on licences which it believed were legally unenforceable because of defects in the procedures used when the licences were issued. This means that some older licences do not include conditions now considered essential; for example, some landfill licences have no specific controls over odour.

- 3.12 Licence conditions may be amended by the Agency on application by the operator. The Agency may also amend the conditions if it thinks the change is desirable and "unlikely to require unreasonable expense on the part of the holder." Further, the Agency is under a duty to amend licence conditions where there is a risk that the waste activity may cause "pollution of the environment or harm to human health or become seriously detrimental to the amenities of the locality." However, the operator can appeal against the Agency's decision to the Planning Inspectorate.
- 3.13 Using these powers the Agency has sought to review the most seriously deficient licences since April 1996. It has made some 8,000 amendments to licences, some at operators' request, but three quarters at its own instigation to remedy deficiencies in licences. The Agency believes that it has now revised the worst licences, but that too many older licences are still highly variable in quality, although it does not know precisely how many.
- 3.14 Waste management licences remain in force until their surrender is accepted by the Agency. In the case of landfill sites this may be 30 or more years after the site has finished taking waste. But due to resource limits, the Agency has decided to review old licences only as new regulatory controls are introduced or in response to major advances in science and/or technology, in which case a programme of work would be introduced to modify all licences affected.
- 3.15 The Agency has to re-issue all licences for larger and higher risk waste sites between 2004 and 2007, as the operators apply for new permits under the Pollution Prevention and Control (PPC) regime. Problems with the licences of smaller and lower risk sites may be identified through normal site inspections, but the Agency believes that it has insufficient resources, due to the introduction of the PPC regime and other new duties, to carry out in-depth reviews of the remaining unsatisfactory licences before 2007. It also believes that a wholesale review of other licences would be premature until the licensing regime has been reviewed by the Department.

The Agency has improved its performance in processing licence applications but much remains to be done

3.16 In our consultations with waste companies and industry groups, a common theme in their comments was perceived delay and inconsistency by the Agency in dealing with licence applications. We examined the Agency's work to improve its performance in these areas.

The Agency has been unable to meet its targets for processing licence applications

3.17 The 1990 Act specifies a target of four months (or a longer period if agreed with the applicant) for processing applications for new waste management licences and two months for amendments. However, the Agency does not often meet the four month target from receipt of an initial application. For example, of the 366 new waste licences by the Agency in 2001-02 only 80 (22 per cent) were issued within the target of four months, and at 31 March 2002, 50 applications had been outstanding for more than 12 months (compared to 86 a year earlier). Performance on licence amendments was better, but fewer than a third of the 143 amendments issued during the year had been processed within two months. The Agency told us that the delays are mainly due to inadequate information being provided by the applicant or a lack of planning permission (a licensing pre-requisite) for the site.

3.18 We examined a sample of 30 licensing files from two of the Agency's eight regions covering new applications, amendments, transfers and surrenders. The Agency encourages applicants to make early contact with licensing teams. This is often done through submission of a draft application, sometimes prior to the grant of planning permission. However, this can distract staff from processing complete applications and can result in Agency staff providing a technical consultancy service for inexperienced applicants. However, example licences and working plans are not currently readily available to assist applicants. From January 2003, the Agency plans to make available through its web site (www.environment-agency.gov.uk) examples of completed application forms and specimen licences for landfill sites regulated under the PPC regime.

3.19 We found that the Agency's licensing staff frequently had to request additional information - even from large waste firms. These requests contributed to protracted negotiations about the level of detail needed in working plans and supporting documents. Licensing staff told us that rather than reject poor quality applications, they preferred to help applicants to submit quality applications as this reduces the time taken to process

the completed application and helps avoid appeals to the Planning Inspectorate. Such appeals involve a lengthy and man-power intensive process in documenting the Agency's defence. In 2001-02, the 60 new waste licences and amendment applications rejected by the Agency resulted in 22 appeals.

3.20 Because of the weeding of papers we were unable in most cases to analyse the reasons for delay or to attribute responsibility for delays between the applicants and the Agency. However, the Agency monitored delays in licensing during 2000-01. This found that between 92 per cent (in Wales) and 64 per cent (Thames Region) of licences issued beyond the four month target, and three quarters of all cases outstanding for more than a year, had been delayed by external factors such as the activity not having planning permission. Internal Agency delays were mostly as a result of staff shortages. The Agency no longer monitors these statistics.

3.21 The Environmental Services Association told us that Agency officers do not always understand the commercial implications of their decisions and that long delays in approving applications are resulting in substantial financial costs: one of their members suggested that a delay of one year in the opening of a planned landfill might cost the operator and its prospective customers as much as £3 million to £5 million. The Agency told us that it cannot reduce its technical requirements for high risk waste sites on commercial grounds and it believes that four months is insufficient to process an application for a complex operation such as a large landfill site, particularly where proposals were controversial with local residents. Licensing offices can agree specific targets for processing urgent applications with the individual applicant but these targets are not monitored centrally.

The Agency is moving towards a more consistent approach to licensing

3.22 The statutory guidance issued by the Department requires waste licences to be specifically tailored to the individual site, although the Department stresses that this does not mean that licences cannot be largely standardised. Following the Agency's establishment, the Agency recognised that it needed to improve the consistency of waste regulation, particularly in licensing. In 1998 the Agency introduced pro-forma licences and standard licence conditions for landfill sites and metal recycling centres. However, we found that many site specific licence conditions continue to be negotiated between applicants and individual licensing officers but the absence of specific guidance made it difficult to assess whether the Agency's additional technical requirements were reasonable.

3.23 The Environmental Services Association told us that their members remain critical of the quality of licensing, and that there is a need for a clearer process for determining variations between individual licences and that:

- there had been a lack of policy on common technical problems agreed with the industry;
- some licence conditions, imposed by the Agency, were impractical or unenforceable;
- staff in Area offices referred the more technical issues arising from complex schemes to regional officers and national Agency experts who were not identifiable by the applicants; and
- some members allege that different Agency offices insist on variations in licence conditions even between sites with very similar geological conditions and broadly the same waste streams.

3.24 The Agency told us that they were aware of a high level of criticism of the licensing system from the waste industry but found that formal complaints were rarely received. In the absence of specific examples, the issues are difficult to respond to. The complete standardisation of landfill licences is not possible, however, because of the wide variations between individual site's geological conditions, types of waste handled, and local factors (for example, the proximity of watercourses and populations and the site operator's own specific operational techniques). None of the other countries we contacted made use of standard licences for landfill sites, but the waste authorities in Ireland told us that in practice there was a high level of standardisation as all new licences are based on the latest licence issued, and in Germany (Baden-Württemberg) licences are based largely on statutory orders and administrative instructions.

3.25 In order to improve the consistency of licensing further, the Agency's project BRITE will centralise simple licensing activities and provide licensing staff with proforma licences covering common activities, such as metal recycling sites. In addition specialist national groups will be established to provide technical guidance and specialist advice and use will be made of strategic permitting teams as workload dictates. The national groups will also review the performance of the Agency's operational staff to ensure a consistent approach is taken and to share best practice amongst operational units.

3.26 In December 2001, the Agency's Chairman, Sir John Harman said that he would like to see a strategic shift in the Agency's regulation: from a focus on compliance with regulations to one on delivering environmental and Quality of Life outcomes. The Agency is developing a standardised environmental outcome focused licence template and an application template for all landfills as they transfer into the

Pollution Prevention and Control regime. The Agency has submitted proposals to the Department to simplify the licence application process where possible and thereby reduce the time needed to scrutinise applications.

There is evidence of abuse of the system of licensing exemptions

3.27 In addition to the 7,700 licensed waste sites, there are around 120,000 other waste sites and activities which do not require a licence but must be registered with the Agency. 45 different categories of activities, on some 54,000 sites, are exempt from the requirement to be licensed: including spreading waste on agricultural land, small recycling facilities, and reuse of waste from construction and demolition. The exemptions also cover 2,300 small metal recycling sites. The Agency also registers 64,000 waste carriers and 2,700 waste brokers.

3.28 Exemptions are permitted by European legislation to allow Member States to offer a light regulatory touch to recycling and certain other waste management activities which have lower potential for environmental damage. The great majority of exempt activities are very low risk, for example, bottle banks. Exempt activities need only register with the Agency and, except for metal recycling sites, currently do not pay fees. The Agency registers some 4,000 new exemptions each year.

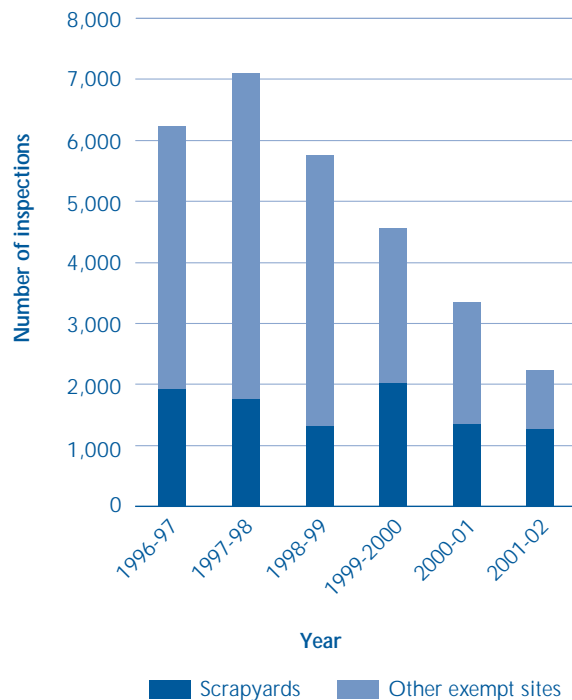
3.29 During 2001-02 fewer than 4,000 (around three per cent) of exempt sites and other registered activities (including carriers and brokers) were inspected by the Agency and the number of such inspections has fallen by more than half since 1997-98. The Agency has increasingly targeted its inspections of exempt sites at scrap yards and high risk exempt activities (Figure 20), but it does not centrally monitor the results of its inspections of exempt sites and activities.

3.30 A number of exemptions have been widely criticised. In its 13th Report of 1998-99, the Environment Select Committee said: "...waste was being diverted to largely unregulated sites exempt from waste management licensing, such as golf courses, from valid restoration work at mineral workings...". Alleged abuses have also been highlighted by the media: in April 2000, *The Guardian* newspaper and the Channel 4 television series *Dispatches* in April 2000 investigated construction waste being dumped on land under the pretence that it is being used for landscaping.

3.31 In June 2001, the European Commission announced that it was beginning infraction proceedings against the UK because it considers that the current legislation allows exemptions which exceed those permitted under the Hazardous Waste Directive. These proceedings are still in progress.

20 Inspections of exempt sites

Since 1997-98 the number of inspections of exempt sites has fallen by two thirds.



Source: Environment Agency

3.32 In 1998 the Department, supported by Agency staff on secondment, launched a review of exemptions. The Department and the Agency reaffirmed their commitment to this review in 2002. As a contribution to the review, in 2000 the Agency proposed a number of amendments to "conditioned" exemptions, which would allow for stricter registration requirements, tighter controls on waste types, a period of prior notification and inspections as well as some new exemptions. At that time, the Agency proposed to the Department that the following waste activities should be included in the proposed new exemptions or amendments to existing exemptions:

- landspreading of industrial wastes, such as paper sludges;
- use of waste for land reclamation;
- small scale commercial or local authority composting;
- use of waste in construction;
- small scale remediation of contaminated land.

3.33 The revised system of exemptions proposed by the Agency would include fees payable by the operators to fund appropriate periodic inspection of the higher risk exempt activities and registration by the Agency. However, progress by the Department has been slow. The Department has said that it plans to consult on exemptions later this year.

The Agency has secured some improvements in the competence and suitability of operators but problems remain

3.34 In the late 1980s, there was concern at the competence and suitability of some operators of waste facilities. The industry was characterised by numerous small and lightly capitalised operators, and standards of training and skills were low. For example, in 1985 the Royal Commission on Environmental Pollution described waste management as the "Cinderella of government and industry".

3.35 Subsequently, the industry underwent a period of restructuring, which has seen the emergence of several larger operators. In a review carried out in 2000, the Environmental Services Association found that the market share of the largest five operators increased from 16 per cent to 30 per cent between 1992 and 1999. The Association believes that the trend towards larger waste companies has continued and that the largest six operators could now account for more than 45 per cent of the market.

3.36 The Environment Agency's experience is that even sites operated by large waste companies, with well developed quality systems, are not always fully compliant and many have been prosecuted in recent years. However, the growth of larger and better capitalised companies can create the potential for better standards of waste management because such operators tend to have stronger internal quality assurance systems than smaller operators, and because the sensitivity of the stock market and financial institutions to an operator's reputation for good management can strengthen incentives for the company to run its sites well.

3.37 To tackle the issue of operator competence and suitability directly, the *Environmental Protection Act 1990* introduced a "fit and proper person test" for new applicants for waste management licences. The test has three elements:

- waste sites must be managed by a technically competent person;
- operators must have made or be capable of making financial provision adequate to discharge their licence obligations;
- persons convicted of certain environmental offences may be excluded from managing licensed waste sites.

We examined the operation of these elements of the test.

The technical competence of operators has improved following the introduction of a statutory scheme for developing technical competence

3.38 Since 1994, individuals managing the more significant types of site (**Figure 21**) have, with certain transitional exemptions, been required to hold a certificate of technical competence awarded by the Waste Management Industry Training and Advisory Board (WAMITAB).¹⁵ WAMITAB developed its scheme in collaboration with the Agency's predecessors. The Landfill Directive also includes a requirement for the ongoing professional development and training of staff at waste management facilities.

3.39 Since the statutory test of competence was introduced in 1994, approximately 2,900 individuals have gained the certificate. WAMITAB estimates that approximately 50 per cent of sites requiring management by a technically competent individual are now managed by personnel holding the certificate - in many cases "grandfather rights" still allow operators who have remained at a site for years to carry on operating without gaining formal WAMITAB certification. The Landfill Directive will require all landfill site managers to demonstrate that they are technically competent to manage the site and that training plans for all staff are in place.

The system of financial provisions for the ongoing cost of maintaining sites may not be sufficient to protect the environment and the taxpayer

3.40 Landfill sites require management after they have closed, for example to control emissions of methane and to prevent liquid leaking from the site and polluting local rivers and water supplies. Some former landfill sites licensed under older legislation are causing pollution to the environment many years after their closure (**Figure 22**). However, before the implementation of the 1990 Act in 1994, an operator could unilaterally surrender the waste licence and, by doing so, relieve itself of the cost of managing such sites. In the first instance it would then be for the landowner to pay for any necessary control measures, but if the landowner cannot be found or is unable to pay, the local authority or the Agency may become responsible if the land is identified as being contaminated.

21 Type of waste management site requiring management by a technically competent person

The technical competence requirement applies to most waste management facilities

A certificate of technical competence is required if the site is:

- a landfill that deals with either bio-degradable or special waste, or has a total capacity exceeding 50,000 cubic metres;
- an incinerator designed to burn waste at more than 50 kilograms but less than one tonne per hour;
- a plant where waste is subject to a chemical or physical process;
- a waste transfer station (where small loads are collected for bulk shipment to treatment or disposal sites); or
- a civic amenity site.

Source: National Audit Office.

22 Environmental damage from closed waste sites

Some former landfill sites have been identified by local authorities and the Agency as a significant danger to the environment

Ailsworth Road and Ben Johnson's Pit - both near Peterborough: Concern about these landfill sites dates back to 1987 when rising levels of a herbicide, disposed of in large quantities at the sites, were detected in Anglian Water's Etton boreholes. The licences for both sites predate the 1990 Act and were surrendered in 1994 - the former operator cannot therefore be required to contribute towards the costs. Investigation of the site has cost £2 million to date and the full remediation programme will cost the Agency an estimated £8 million over the next 30 years. In addition, Anglian Water plans to spend £2.5 million in capital costs and a further £80,000 a year in operational costs to improve the quality of the water extracted from its boreholes.

Bransholme landfill near Kingston Upon Hull and Woldgate landfill near Bridlington were owned and operated by the former Humberside County Council and closed in the 1980s. Both sites are designated as special sites where the Agency is the enforcing authority. Remedial action is likely to include the installation of engineered capping to reduce rainwater ingress, at a cost of several million pounds.

Source: Environmental News Daily (ENDS)

3.41 The 1990 Act introduced a requirement for operators to make suitable financial provision to meet the continuing costs of managing sites. The requirement applies to new licences issued or transferred between operators under the Act and the Agency has applied it to amendments of licences issued under older legislation in order to ensure all new obligations since 1994 are subject to the same requirements. The requirement to make financial provision accords with the "polluter pays" principle, since it encourages operators to take the long term cost of protecting the environment into account when setting their charges for receiving different types of waste. However, the provision is intended to cover only predictable licence obligations, for example: leachate treatment, long-term monitoring, landfill gas control, restoration to prevent water ingress and gas escape. It does not provide a general fund against all possible claims, such as claims by third parties or unpredictable events.

3.42 The value of the financial provision is agreed between the operator and the Agency prior to the issue of the licence. The value of the provision can vary during the life of a site as areas are used and closed. However, typical initial values of financial provision for landfill sites are of the order of between £0.45 and £0.80 per tonne of waste to be received. Substantial financial provisions must remain after closure of landfills to cover the costs of monitoring the site for at least 30 years, treatment of leachate and gas emissions and repairs. For sites where it is not intended to deposit waste permanently (for example waste treatment or recycling centres) the main cost that might need to be met from the provision is the removal of all waste from the site for disposal elsewhere, and much smaller provisions are normal.

3.43 There are now some 1,700 financial agreements in place with a current total value approaching £200 million (**Figure 23**). European legislation (the Landfill Directive) will require all non inert landfill sites to be covered by financial provisions by 2007. The main long-term forms of provision to date have been performance bonds (a guarantee by a financial institution to pay an agreed sum to the Agency if the operator defaults on its licence obligations or becomes insolvent), escrow accounts (where cash is deposited in an account and both parties must agree to withdrawals) and cash deposits. The Agency has also accepted less secure forms of financial provision for short term liabilities, including provision in financial accounts, annual insurance policies and parent company guarantees.

23 Financial provisions agreed with waste licence holders as at 1 April 2002

Financial provisions have been agreed with 1,743 licence holders, making nearly £200 million available if required

	Current Value (£ millions)	Number of agreements
Performance bonds	165.3	761
Parent Company Guarantees	5.9	23
Escrow accounts	4.8	60
Cash Deposits	4.1	679
Other	16.2	220
Total	196.3	1,743

Source: Environment Agency

3.44 Currently, performance bonds are the most common form of financial provision, representing 44 per cent of cases and 85 per cent of provisions by value. The Environmental Services Association told us that smaller waste companies are not always able to obtain a bond. They were also concerned that the bond market would only provide bonds that are renewable after three years, and that any large claim could result in the withdrawal of any new bonds.

3.45 Escrow accounts and cash deposits (which represent 42 per cent of provisions by number and 5 per cent by value) are the Agency's preferred alternative to bonds for sites with longer term liabilities, such as landfill sites. While these offer a high level of protection to the public purse, they are unpopular with the waste industry because they can tie up substantial sums for very long periods earning a low rate of return. One large operator told us that it had estimated that the application of this system to all of its sites would require some £200-300 million to be placed in such accounts.

3.46 Between the Agency's establishment in 1996 and June 2002, financial provisions have been called upon 15 times. In six of these cases, (four cash deposits, one escrow and one bond) the provision was not adequate to cover the actual costs involved in making the sites safe. The total financial provision made in these six cases totalled £120,000 but estimated expenditure will exceed £2.7 million - including £2.4 million in a single case (**Figure 24**). In most cases the excess costs fall on the landowner, but the Agency expects to fund works totalling £121,000.

24 Some financial provisions are inadequate

Financial provisions may not be adequate

Premiere Environmental Ltd, operators of a chemical treatment plant, agreed a financial provision of £90,000 with the Agency's predecessor to be placed in an escrow account. After the company became insolvent, contaminated rainwater was found requiring emergency works by the Agency. The landowner also funded site security and the removal of numerous drums of hazardous chemicals. Total costs are estimated at £2.4 million. Only £60,000 had been paid into the Escrow account at the time of the insolvency.

Source: Environment Agency

3.47 A further difficulty with the present system of financial provision is that the Act envisages that the licence holder will continue to be responsible for monitoring of the site and any necessary works for as long as required by the Agency. However, recent case law provides that where companies go into liquidation, the receiver can disclaim a licence as "onerous property", terminating the licence (Figure 25). Whilst a licence is in force the Agency has powers to carry out emergency works, and to recover its costs. There is, however, uncertainty over the status of any form of financial provision made by a company when it goes in to liquidation once the licence has been disclaimed. The Agency is clarifying the legal position by seeking a High Court ruling and in the light of this, making recommendations to the Department for possible amendments to legislation.

3.48 On its own initiative, the waste industry and the Environmental Services Association has proposed a Joint Remediation Fund, operated by the industry itself. This is similar to the funds operated in some other countries, for example Austria (Appendix 5). The Department is considering the industry's proposals. The European Commission has also produced a proposed directive for a Community wide regime on environmental liability¹⁶. This would allow for national arrangements on insurance or other forms of financial security to avoid the taxpayer carrying the costs, for example a fund subscribed to by potential polluters to pay for action once harm is caused and where the operator cannot be found or cannot pay for damage.

3.49 To address these problems the Agency:

- proposes to consult on a streamlined approach to ensuring adequate financial provision under the existing legislative regime;

25 Difficulties with enforcing financial guarantees

Financial provisions may not be enforceable in the event of insolvency

In December 2001 Hillridge Ltd, the operator of the Manywells landfill site near Keighley, went into liquidation along with its parent company, Wastepoint. None of the site had been capped or restored. It has been estimated that this work would cost in excess of £500,000. The licence included financial provisions of £375,000 in an escrow account, and a similar sum in the form of a parent company guarantee. The liquidator disclaimed the site licence but has not sought to recover the funds held in the escrow account. However, the Agency has not accessed these funds as legal advice is that it is not entitled to use the money. Adjudication is being sought in the High Court to clarify the point.

Source: Environment Agency

- is carrying out work to identify the scale of potential liabilities and options for securing long-term adequate financial provision for landfill sites;
- is discussing with the Department, the Department of Trade and Industry and the waste industry what changes in the law might be required to prevent abandonment of landfill sites and achieve a more secure system of financial provision.

A power to exclude persons convicted of environmental offences has not been used

3.50 As noted in Part 2 above, when the Agency discovers illegal waste sites it prefers to encourage the operators to apply for a licence because the licensing system provides it with greater control over the operation of a site than the threat of prosecution. The Department's statutory guidance on the application of the fit and proper person test stresses the need to consider mitigating circumstances before turning down an application. Licences can be granted to applicants with multiple previous convictions (Figure 26) and to date no applications have been denied on the grounds of previous relevant convictions. Agency monitoring of enforcement action since January 1999 shows that none of the 93 operators successfully prosecuted by the Agency up to March 2001 for breach of their licence had their licence withdrawn.

26 Licence applications from persons with previous convictions

The Environment Agency seeks to bring illegal waste activities into its licensing and inspection regime

The operators of C&M Skips, Ladywood were prosecuted for waste offences in 1993, 1986 and 1985.

The company operated a skip hire company and were registered waste carriers. However, they also used their premises to sort waste and bulk materials for onward shipment to landfill sites, an activity for which a licence is required.

A surveillance operation was carried out by the Agency during 1998, and a notice issued requiring the removal of waste from the site. A further visit later in the year found that the waste had not been removed.

The Company and its two directors were fined a total of £3,000 with £700 costs for operating an illegal waste transfer station. The company subsequently applied for a waste licence, which was granted. The Agency believes that it has secured significant improvements in the operation of the site through the licensing process.

Source: National Audit Office sample of cases

The Agency's frequent inspections of licensed sites may not be effective in detecting environmental breaches

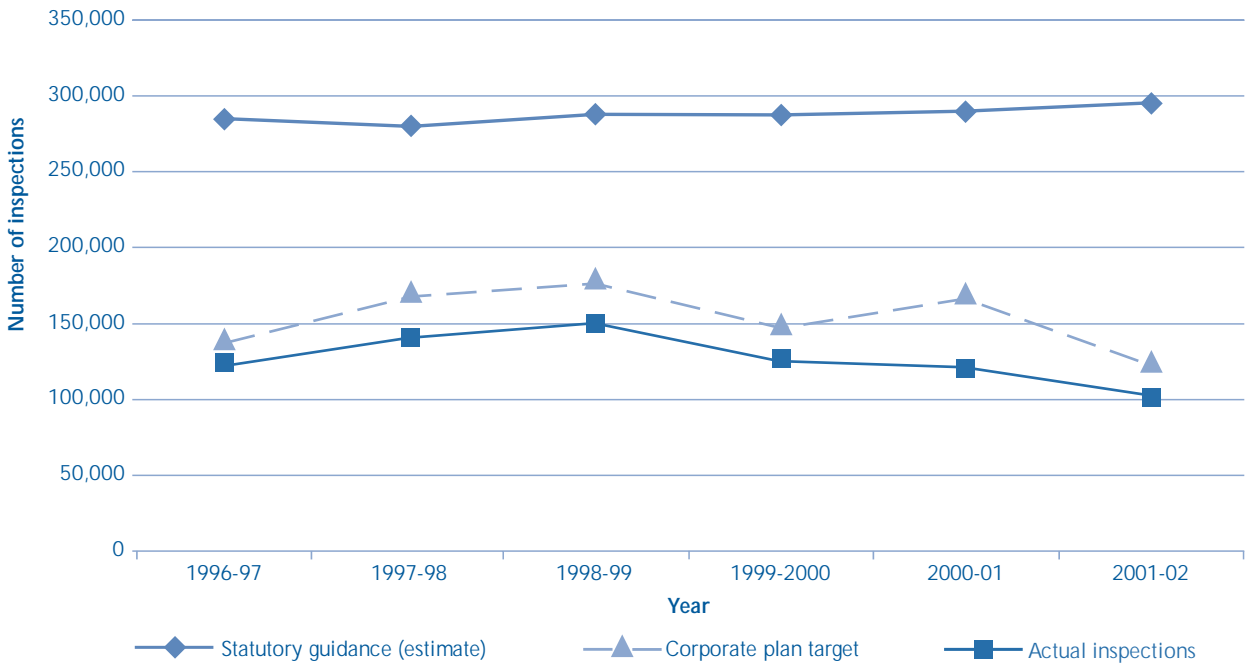
- 3.51 The European Waste Framework Directive requires that all waste sites, including those exempt from licensing requirements, are to be subject to "appropriate periodic inspections" in order to ensure that waste is disposed of without endangering human health or harm to the environment (Figure 4). The Agency spends around £17 million a year on inspections and related enforcement activities at waste sites and registered carriers. The main purpose of these visits is to check that sites are being operated in accordance with their licences and to ensure protection of the environment and human health, as required by the Waste Framework Directive. But they also give the Agency an opportunity to provide advice on good waste management and to consider whether licences need to be changed.
- 3.52 The effectiveness of the Agency in securing good standards of waste management is dependent on the frequency, targeting and quality of inspections, the standard of training and expertise of the staff carrying them out, and the incentives for operators to manage waste well.

The frequency of inspection of licensed waste sites has fallen but the Agency is targeting its inspection resources more effectively

- 3.53 No European Union guidance has been issued on the required frequency of environmental inspections and it is for each member state to determine the inspection frequencies needed to ensure that the environment is protected. In England and Wales, the Department has issued guidance on the frequency and conduct of inspections of licensed sites. This guidance was first published in 1976 and from 1994 to 2000 included recommended overall minimum inspection frequencies for different types of licensed waste site, ranging from three visits a year for some simple low-risk sites up to eight visits a month for landfill sites handling hazardous waste. The frequencies, which were recommended by a panel of waste experts from the Department's Waste Technical Division and local waste authorities, represented a compromise between the known problems at waste sites and the likely availability of resources within local waste regulation units. The Department has issued no recommendations for the frequency with which different types of exempt sites should be inspected other than for exempt scrap yards which are to be inspected annually.
- 3.54 When the Agency took over responsibility for waste regulation in April 1996 it found wide variations in the frequency and quality of the inspections being carried out by its 83 predecessor organisations. With the staff it had available, it was initially able to carry out 123,000 inspections, less than half the number of nearly 300,000 a year which we estimate was required by the Department's guidance (Figure 27). Recruitment of additional waste inspectors allowed the Agency to carry out nearly 150,000 inspections in 1998-99, but since then the number has fallen by some 30 per cent to 100,000 in 2001-02 (compared to 118,000 planned during the year). This rise and fall back to below 1996-97 levels has occurred at the same time as the number of licensed sites increased by four per cent and the Agency's waste staff have increased by 210 full-time equivalent members of staff (13 per cent). The Agency attribute the reduction to the need to carry out major new duties introduced during the period, the need to carry out an environmental assessment of every waste site in order to introduce an inspection regime based on risk and an increase in the number of prosecutions for waste offences.

27 Environment Agency inspections of licensed waste sites 1996-97 to 2001-02

After its formation in April 1996, the Agency increased the number of inspections of licensed waste sites until 1998-99 but since then the number has declined.



Source: Environment Agency and National Audit Office estimates

3.55 Before 2000, inspection effort was targeted on risk only to the extent that the Department’s guidance distinguished between eight broad categories of site with different inspection frequencies for each category. In 2000 the Department authorised the Agency to determine waste inspection frequencies according to an assessment of risk at individual sites. The Agency developed the Operator and Pollution Risk Appraisal (OPRA) system, which assesses the relative risk of each site, based mainly on:

- the potential risk to the environment of the site, for example because of its size, location and the types of waste handled;
- how well the site is being managed, based on the results of inspections from the previous quarter.

Each of the Agency’s Regional offices then allocate the staff resources available for inspection to individual sites in proportion to the sites’ total OPRA scores.

3.56 OPRA has allowed the Agency to adopt a more flexible approach to inspection and to reduce significantly the inspection effort devoted to low-risk and well managed sites. The Department’s current guidance, agreed by Ministers, recommends a minimum of four inspections a year for all licensed sites in order to assess any changes in risk. However, many of the Agency’s inspectors we accompanied on site visits told us that in

their opinion this frequency can be excessive, particularly for some closed sites which are candidates for surrender of the licence (Figure 28). We also visited a small pet cemetery in a rural area, whose OPRA risk score results in eight inspections a year - twice the minimum required by the Department. In contrast there is no permanent inspectorate responsible for burial sites receiving human remains - Home Office appoints inspectors on an ad hoc basis to examine and make reports on particular problems which have been drawn to its attention. Three such reports, in relation to six cemeteries, have been obtained since 1995.¹⁷

28 Former inert landfill in the Midlands

The Department still requires low risk waste sites to be inspected four times a year by the Agency

This site, in a rural area, was used to dispose of soil, clay, rock and spoil from the construction of a new road. After completion of the road, the site was capped with clay and soil and planted with grass. It is now used for grazing by a local farmer.

The operator applied to surrender the site licence. However, low levels of methane were detected, possibly from wood and other vegetation buried at the site. The site therefore remains licensed and is visited four times a year by the Agency as well as being monitored by the operator.

Source: Environment Agency

3.57 Routine inspections have value in helping the Agency to monitor the operation of sites and to detect quickly and put right poor waste management. However, the minima set by the Department and OPRA do not have a scientific basis and there is no evidence to show that higher frequencies are more effective than lower ones in securing good standards of waste management (for example, that eight visits per year was significantly more effective than four). The Department's guidance only allows the Agency to use OPRA to allocate available inspection effort according to an assessment of the relative risk of sites, and not to determine the absolute number of inspections required. The Department's guidance requires the Agency to review OPRA periodically and to make public its findings. The Agency believes that as experience with the OPRA system grows it will be able to identify whether the overall frequency of visits can be reduced without endangering the environment, whilst properly taking into account public concerns regarding the regulatory supervision of waste management activities.

3.58 The Agency does not monitor the proportion of licence modifications or enforcement action which arise from its routine inspections rather than from incident reports, monitoring of emissions and other intelligence received. We found that the 100,000 site inspections carried out in 2001-02 resulted in 227 enforcement notices and 15 licence suspensions. In addition, 31 operators were prosecuted (and 13 cautioned) for breaches of licence conditions.

3.59 We contacted a number of waste regulators in other countries (Appendix 5 and **Figure 29**). Direct comparisons of inspection frequency were not possible. We found that in most countries the inspection of waste sites is a matter for regional or local government and that limited information was available centrally. In France, for example, waste regulation is closely integrated with inspections of industrial processes and a detailed breakdown of inspection frequencies at individual sites is not available. Nevertheless, we found that most countries believed that their waste regulators inspected waste facilities less frequently than the Environment Agency. The majority visited landfill sites monthly or quarterly and after receipt of complaints. Only Baden-Württemberg approached UK levels of inspection for higher risk waste sites. Some of the countries, however, reported widespread environmental problems at waste sites or that financial constraints prevented more frequent inspections.

3.60 We also compared the Agency's inspection of waste sites with its inspection of sites controlled under the Integrated Pollution Control (IPC) regime. This is a separate regime, operated before the Agency's formation by Her Majesty's Inspectorate of Pollution, currently used to regulate major industrial sources of pollution. It is also used to regulate major municipal

29 Waste inspection overseas

Some overseas waste regulators inspect licensed sites less frequently than the Environment Agency and use a range of inspection methods to ensure effectiveness

Republic of Ireland

Landfill sites are inspected at least four times a year without warning. A detailed audit is carried out annually by a small team of inspectors who examine all aspects of the site management and operation. Operators are also required to prepare an annual report detailing results of emissions testing and compliance with the conditions of their licence etc and to submit this to the Agency. Smaller waste sites, other than landfills, are licensed and inspected by the local authority.

United States (State of Illinois)

Quarterly inspections are the norm. Inspectors attend before site opening times to check that site is secure. Administrative fines of up to \$3,000 can be levied, for example, for failure to control litter. Inspectors also examine waste arriving with particular regard to testing hazardous waste. The shippers and carriers observed using sites are subsequently visited to ensure that waste is being consigned safely.

Source: National Audit Office interviews of overseas waste regulators

waste incinerators and some cement works that use waste, such as solvents and old tyres, as fuel. We found that sites regulated under the IPC regime are visited considerably less frequently than licensed waste sites. On average IPC sites are visited three to four times a year compared to the average of 35 inspections a year carried out at major landfill sites. Following recent criticism of its regulation of incinerators and the control of recycled fly ash, the Agency reviewed its inspection of incinerators and from 2003-04 will double the frequency of visits to six announced and six in-depth reviews a year. However, as landfill site activities are inherently less consistent and controlled than those of an incinerator, the Agency considers that there is a need for a higher frequency of inspection for landfill sites.

The Agency needs to improve the quality of its inspections of licensed waste sites

3.61 The Agency monitors the performance of licence holders mainly through its inspection visits carried out under the OPRA system. Unannounced inspections during normal working hours represent the bulk of the Agency's inspection effort. These inspections are of various lengths depending, for example, on the size and type of waste site and whether the site is operational or is post closure. On larger sites it may not be possible to examine all aspects of the site during a single visit but most visits are for less than two hours. This type of inspection is primarily intended as a visual check to confirm compliance with the conditions of the licence and environmental legislation.

3.62 However, the Agency carries out a range of other inspections under the OPRA system.

- **Out of hours visits** are typically carried out by less experienced staff and are short unannounced inspections intended to confirm that the site is closed outside its authorised working hours and that the gate is secured. The visit may also involve an inspection around the perimeter fence to detect litter, dust or other pollutants. The Agency has set a target that out of hours visits should be no more than 5 per cent of its total inspections. However, we found that the Agency does not monitor the actual proportion or duration of inspections of this kind.
- **Engineering inspections** are usually carried out by appointment and are intended to evaluate design proposals or to inspect workmanship and adherence to engineering quality assurance and quality control systems which might later cause unacceptable environmental emissions.
- **Complaint investigations** triggered by letters or through the Agency's incident recording system (see Part 2) may be carried out during an unannounced inspection or by appointment. The number of such inspections is not separately monitored.
- **Specific Environmental Monitoring** exercises focus on, for example, the operator's monitoring and management of gas, leachate and groundwater, but may also address matters such as waste inputs and site records. In 2001-02 the Agency stopped recording such work nationally. However, in 2000-01, the Agency carried out 633 of these inspections and 1,744 in 1999-2000.

3.63 No site specific inspection programmes are used either by the Environment Agency or of any the overseas waste regulators we contacted during the study. The Agency has, however, drawn up a set of standard inspection forms which set out 33 key areas for inspections to cover and has produced guidance to its staff to assist in standardising inspections to a minimum standard.

3.64 In our consultations with various industry groups we found mixed opinions on the value of routine inspections carried out under the OPRA system. Some waste operators we consulted welcomed these inspections as a means of preventing competition from operators not observing proper standards of environmental control. However, the Department and the Environmental Services Association told us that they considered the quality of inspection to be at least as important as the quantity.

30 Comments from managers of licensed waste sites on inspections

Many waste site managers are critical of the Agency's routine inspections

"The inspectors simply walk around checking that drums are stored in the right place. They complain if a single drum is over the white line. But they seem to have no idea what unscrupulous operators are doing. Many of my competitors mix hazardous waste with batches which are below the legal limits and ship them both to landfill as normal waste. The inspectors should be tracking waste from its arrival to its final destination".

"... Much of the waste which arrives here is discharged, after treatment, through the foul sewer. No waste inspector has ever reviewed our procedures or tested whether we are within our consent levels from the water company..."

"Because of the duty of care regulations, many of my customers are now coming once a year to confirm that their waste has been handled properly. I can show each and every one where every batch was sent. The Inspectors never examine my records ..."

Source: National Audit Office visits to licensed waste sites

3.65 We accompanied waste inspectors to a variety of licensed and exempt facilities and discussed the conduct of inspections with the operator. Many of the site managers we spoke to were critical of the quality of the Agency's inspection of their own establishment and of competitors. This was particularly true of the more complex sites handling hazardous or difficult wastes. They commented that inspectors are mainly passive observers who check the storage of waste on site but do not examine the main processes by which waste is made safe (**Figure 30**).

3.66 Our own observations confirmed that little use was made of documentation produced by the operator's internal control systems to confirm that waste was controlled at all times. Inspectors relied mainly on local management to bring problems to their attention. No samples of waste, air, water or soil were taken during any of our visits, or checks made of operators' own tests. As a result, some sites have operated in breach of licence conditions for lengthy periods without this being discovered by standard inspections (**Figure 31**).

31 Failure of inspections to detect breaches of licence conditions

Following a tip-off from an employee, Agency inspectors visited the Ling Hall and Coalmoor landfill sites. They found that local management had falsified details of the depth of leachate (a noxious liquid formed by water percolating through decomposing waste) and the volume of harmful chemicals being accepted. High levels of leachate within a landfill can result in increased leakage of chemicals into groundwater.

Some 250 reports were falsified from a total of 520 submitted to the Agency between July 1996 and March 1997. During this period inspectors visited the site on 30 occasions but took no readings of leachate levels or their own samples of major waste streams.

The case came to court in January 2000. The operator was fined £87,500 with costs of £20,500. Site staff involved in the fraud resigned, or were dismissed by the company, in 1997.

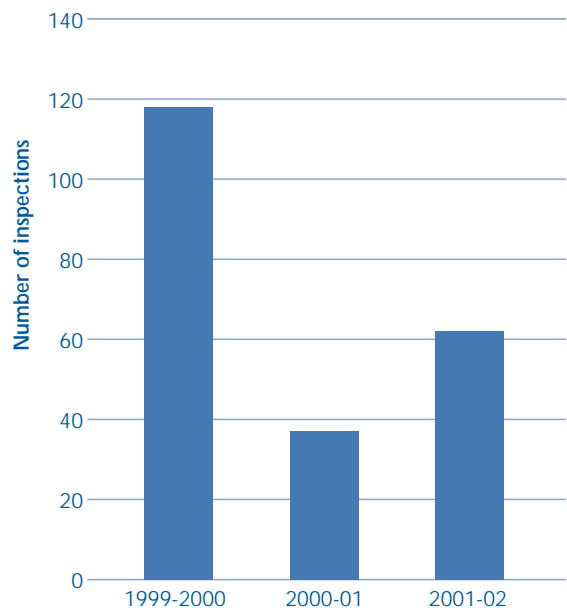
Source: National Audit Office sample of cases

3.67 The Department's guidance recommends that major sites should be subject to an annual site audit and licence review. Inspections of this type typically involve several inspectors over several days. Some Agency offices carry out in-depth audits of complex sites to check that all relevant licence conditions are being complied with. Inspectors we interviewed considered these audits to be valuable in identifying whether all licence conditions were being complied with, and in finding control weaknesses not picked up by routine visits. However, the number of such visits has been falling since 1999 (Figure 32), and a number of offices told us that they had been instructed not to carry out this type of work and to give preference to routine inspections. The Agency told us that this was to ensure a balance between all types of inspection across England and Wales.

3.68 The Agency is currently reviewing its inspection strategy following its initial experience with OPRA, and its need to adopt less labour intensive inspection strategies to cope with significant increases in its workload (see paragraphs 1.19 to 1.21 above). The Agency intends to reverse the decline in in-depth audits and has set a target for carrying out such audits at a total of 600 of the 1,200 special waste landfills, transfer stations and landfills taking household, industrial and commercial waste. Some resources have also been allocated to joint inspections with the Health and Safety Executive of facilities managing hazardous waste so reducing the resources available for other site audits. These changes would allow the Agency to move towards the approach followed for waste sites in some countries overseas, where a small number of very thorough inspections are considered more effective than larger numbers of relatively superficial visits. Ireland, for example, has

32 In-depth audits of complex sites: 1999-2000 to 2001-02

The Agency has been carrying out fewer audits of waste sites.



Source: Environment Agency

introduced a requirement for all major landfills licenses to be reviewed annually in addition to four unannounced inspections and an annual environmental report by the operator himself (Figure 29).

3.69 The introduction of the Pollution Prevention and Control (PPC) regime suggests that the most complex waste sites, such as chemical treatment works and landfills, should be inspected on a more comparable basis to incinerators and other industrial processes. Although this approach leads to a significantly reduced frequency of inspection (industrial processes are inspected an average of three visits annually), it includes a formal appraisal of the quality of internal control systems to ensure that operators' management systems are robust enough to ensure that consistent standards of site operation are maintained when Agency inspectors are not present.

3.70 Compliance plans are also being developed for the new PPC permits, including a mixture of 'in depth' inspections and unannounced inspections. These plans will be based on risk criteria, rather than on simple inspection frequencies. It is envisaged that in the longer term, where practical, a similar approach will be adopted for other waste licensing activities. The Agency should evaluate the effectiveness of any changes in its inspection approach to major waste sites after a suitable interval.

The Agency is seeking to improve the standard of training of its environmental protection inspectors

3.71 The Agency needs skilled officers to make best use of inspection visits. However, in the past the Agency's training of environmental protection officers has received criticism from a number of quarters. For example:

- The Environment, Transport and Regional Affairs Select Committee, in its May 2000 report *The Environment Agency*¹⁸, while praising the personal commitment of the Agency's staff, concluded that the Agency had not done enough by way of training its staff to gain the confidence of the industry.
- A number of respondents to our consultation exercise were concerned that the level of experience and calibre of those working in the waste industry may not be replicated in the Agency. For example, while the operators of most sites are required to gain the certificate of technical competence (see paragraph 3.38), the Agency's inspectors are not required to have this qualification.

3.72 In response to the concerns of the Select Committee and the sector, the Agency has developed and implemented a number of initiatives to help ensure that environmental protection and other officers are properly equipped with the skills and competencies required to fulfil a broad and integrated role including the licensing and inspection functions (Figure 33). Also, to enable a move to more audit-based inspections of sites, the Agency is investigating other appropriate training for its staff. For example, it is looking to carry out a pilot training exercise on root-cause analysis and management systems assessment for its front-line staff.

3.73 Instead of using the WAMITAB system of training, which was devised for waste operators and not regulators, the Agency has opted for an internal system of training for its staff. This has resulted in some in the industry perceiving a 'credibility gap' for new recruits to the Agency. The Agency will need to monitor closely the impact of its training in practice if it is to ensure that its staff command the respect required to carry out their responsibilities effectively.

The Agency is considering using variable licence charges to give operators a financial incentive to manage waste well

3.74 Waste operators are required to pay charges to the Agency intended to meet the cost of the Agency's work relating to regulating the operator's waste management activities. The charges consist of one-off charges, for

33 The Environment Agency's training and development programme

The Agency has introduced a number of initiatives to ensure that its staff involved in waste regulation are sufficiently well qualified

- Competencies for environmental protection officers and licensing staff have been developed and implemented. These now form the basis of officer training. All officer training, both classroom and field-based, is linked to core competencies.
- All newly appointed regulatory officers, including environmental protection officers, go through an intensive 6-month training and development scheme during which their core competencies are established and assessed.
- Implemented structured recruitment process and a three-year competency scheme for new recruits
- The implementation of the requirement to demonstrate a specified level of training and competence before being issued with an Agency warrant and a training programme to support this.
- Developed specialist training tools including a virtual reality site inspection training tool and distance learning course materials
- Developing joint workshops with the Environmental Services Association and the Chartered Institution of Wastes Management
- Maintaining a secondment programme with the industry
- Implementation of distance learning materials to support waste licensing skills development
- Legal training for enforcement staff including preparation of prosecution files

Source: National Audit Office

example on application for a licence; and, in the case of licensed sites, an annual charge to cover the cost of the Agency's inspection of the site (Figure 34).

3.75 Charges for each main type of site are based on the estimated cost of regulating that type of site, but the Agency is considering whether sites with a low risk assessment score under the OPRA system (paragraph 3.55) should pay a reduced annual charge, and those with a high OPRA score pay a higher charge. Since OPRA scores are based in part on the compliance record of sites, this variable charge is intended to reward operators for having a good compliance record. The initial proposal is that only particularly high or low OPRA scores will affect charges; the middle 70 per cent of operators will be unaffected by the changes.

34 Examples of fees and charges payable for waste activities 2002-03

Current fees and charges consist of initial and annual amounts, both of which vary depending on the nature of the activity concerned

Waste carriers and brokers	Initial registration	£127
	Renewal of registration (every 3 years)	£87
Scrap metal dealers	Initial registration	£599
	Annual renewal of registration	£224
Licensed sites	Licence application	£300 - £16,175 (see note)
	Annual inspection charge	£125 - £25,725 (see note)

NOTE

The charge is determined by the amount and type of waste authorised by the licence and by the nature of the operation.

Source: Environment Agency

3.76 The Agency is constrained as to the level of variability in charges that it can apply because charges should reflect actual costs in delivering services. Accordingly, the Agency has proposed that the OPRA score will adjust charges by up to 10 per cent, resulting in a maximum difference of 20 per cent between the lowest and highest charge that an operator could pay. Since the highest charge currently payable for a site is £25,725 a year, the maximum annual incentive that an operator could face is therefore £5,150 a year. This is a very modest amount compared to the annual income of operators - the turnover of a large landfill site, for example, can exceed £10 million a year. The Agency will therefore need to monitor carefully operators' response to the new charges to assess whether they are having any significant effect on operators' behaviour. Publicly reporting OPRA scores, as the Agency is proposing to do, may be a bigger incentive than OPRA related charges in the early stages of the proposed system.

Other methods of gathering intelligence on illegal waste disposal

3.77 Inspection visits, supported by the Agency's incident reporting system (see Part 2) and routine environmental monitoring, provide the Agency with valuable information about the performance of licence holders. However, these methods are less effective against waste producers, unregistered waste operators or individuals and groups who deliberately set out to flout environmental laws. There is a risk that some illegal operations have made substantial financial gain by evading regulatory controls and charges, at the expense of legitimate business and the environment.

3.78 The Agency has resolved to enhance its capability to deal with illegal operators by adopting an intelligence led enforcement approach to compliment regulatory compliance and enforcement activity. This method has already been successfully employed by the Agency to deal with inland fisheries enforcement. Intelligence supported enforcement promotes benefits for detecting illegal activity, enhancing staff health and safety and protecting the environment from abuse by cynical operators. Moreover, the Agency believes that this approach will also assist in delivering support to Government policies on crime and disorder through multi-agency approaches to law enforcement. Illegal operators may also be found to be subject to investigation for benefit claims, violent crime and drugs-related offences which are the province of other agencies. The Agency believes that targeted effort in this sphere of activity will also assist in environmental protection and ensure that sentencing for convicted offenders will be more appropriate.

3.79 The Agency operates within the *Regulation of Investigatory Powers Act 2000*, with regard to directed (covert) surveillance under Part II of that act, and as such is subject to inspection by the Office of Surveillance Commissioners. The Commissioners examined the Agency's compliance with the Act in December 2001. Their report found that the Agency had a good level of compliance with the legislation, and praised the professionalism of its enforcement staff and the Agency's procedure for carrying out surveillance. We found a number of examples where the Agency has used various surveillance techniques to address the deliberate avoidance of regulatory control (Figure 35). The Agency told us that its staff have proposed the use of a wide range of other techniques. It considers that such techniques can only be employed against operators where there is already strong evidence of wrongdoing and conventional approaches are likely to be ineffective in securing a conviction.

3.80 To help it address these issues, the Agency has established a single team responsible for enforcement practices across England and Wales. The Agency also plans to set up an Environmental Crime Intelligence Unit. This will be tasked with working across Agency internal boundaries gathering information on environmental crime, producing analysis for operational use and strategic threat assessments to target resources. It will also have responsibility for liaising with other law enforcement agencies at national and international level such as HM Customs and Excise, the police and Interpol to share intelligence, identify patterns of criminal activity and target waste crime, particularly investigation of incidents where the perpetrator is not readily identifiable.

35 **Surveillance techniques used to detect environmental crimes involving waste**

During June 2000 Agency officers spent a day flying over the South West area in a light aircraft to identify, and photograph, illegal waste activities. The flight was very successful, with over 30 suspected illegal disposal sites, many in isolated areas and not previously known, being identified for further investigation.

Rowleys Green Lane in Coventry had suffered from persistent fly tipping and was designated a 'hot spot' by Coventry City Council and the Agency. In March 2001, video surveillance recorded a hire vehicle depositing 17 wooden pallets which were later set on fire by children or thrown into the adjacent River Sowe where they had to be removed by the Environment Agency to prevent flooding. The driver was fined £1,000 with costs of £425.

Following a series of complaints to the Agency, officials kept a covert watch on a Cumbrian-based skip hire firm. The owner was followed as he towed three trailers of rubbish to a farm at Alston where the waste was burned. The owner was fined £300 and ordered to pay £200 costs.

Source: Environment Agency

Appendix 1

Methodology

Methodology

- 1 We examined three issues:
 - how the Agency deals with pollution from waste;
 - whether the Agency has been successful in raising standards of waste management.
- 2 We did not examine radioactive waste, which is regulated by the Agency and the Health and Safety Executive; sewage, which is also regulated by the Agency but under a different regulatory regime; international movements of waste; producer responsibility requirements; the movement of hazardous waste; the Agency's role in strategic waste management matters; or action to reduce the production of waste, which has been the subject of a recent review by the Cabinet Office Strategy Unit.
- 3 The Agency is accountable to the National Assembly for Wales for regulating waste in Wales, so our examination focused on the Agency's work in England. However, the Agency's monitoring systems collect information for England and Wales, rather than just England, so quantitative information in this report relates to England and Wales except where otherwise stated. Our findings regarding the Agency's organisation and methods will also generally be applicable to Wales as well as England.
- 4 In undertaking the examination, we:
 - interviewed senior staff from the Environment Agency's waste policy and operations directorates and the Department for Environment, Food and Rural Affairs;
 - reviewed a sample of 30 licensing files in the Agency's North West and Midlands Regions; and 54 prosecution files in its North West, Midlands and Thames Regions;
 - discussed waste regulation with the relevant agencies in a variety of other EU states and other comparable countries, including Austria France, Germany (Baden-Württemberg), Ireland, USA (Illinois), Canada (British Columbia), and New Zealand;
 - consulted a range of third parties on their views of the performance of the Agency; submissions received included contributions from: the Environmental Services Association, Composting Association, ENCAMS (formerly Tidy Britain Group), Greenpeace, Friends of the Earth, Agenda 21 Warrington, Residents Against Toxic Scheme (RATS), British Metals Federation, Royal Town Planning Institute, Local Government Association, Waste Management Industry Training Board and Sandon Parish Council;
 - accompanied the Agency's inspectors on a range of inspections in the Agency's North West, Midlands Thames and Southern Regions (**Figure 36**); the sites visited included sites where recent enforcement action had been taken; during the inspections we interviewed the operators' site management and staff; we also interviewed senior representatives of major waste companies.
- 5 During the study we were advised by Professor Howard Wheeler, head of the Centre for Environmental Control and Waste Management at Imperial College and Professor David Briggs, Department of Epidemiology and Public Health, Imperial College Faculty of Medicine.

36 Licensed and exempt waste sites visited during our examination

During our examination we visited 21 waste sites.

Operator	Site	Type of activity
(a) Licensed waste sites		
3C Waste Limited	Arpley, Warrington	Landfill site, handling hazardous, municipal and inert wastes
Biffa Waste Services Ltd	Syston, Leicester	Waste transfer station
Blackbushe Metals Ltd	Yateley, Surrey	Car breaker
Celtic Technologies Ltd	Flixton, Manchester	Mobile plant, removing hydrocarbon contamination
Cleanaway Limited	Ellesmere Port, Cheshire	Hazardous waste incinerator
Mr T Faulkner	Frodsham, Cheshire	Pet incinerator
Cleansing Service Group Ltd	Cadishead, Manchester	Chemical Treatment Facility
Mrs Susan Lea	Sandbach, Cheshire	Sleepy Meadow Pet Cemetery
Alfred McAlpine	Wanlip Hill, Near A6/A46 Leicestershire	Inert (construction) landfill
SITA	Lount, Leicestershire	Composting facility
	Narborough Quarry	Landfill site, handling hazardous, municipal and inert wastes
	Albury Sandpit, Surrey	Landfill site, handling hazardous, municipal and inert wastes
Onyx Hampshire Ltd	Down End Quarry	Composting facility
	Paulsgrove, Portsmouth	Materials recycling facility (plastic, paper, aluminium)
Rentokil Initial UK Ltd,	Trafford Park, Manchester	Clinical Waste Transfer station
Shanks Chemical Services Ltd	Redfern Street, Liverpool	Hazardous Waste Transfer Station
Waste Recycling Group PLC	Dorket Head Landfill, Nottinghamshire	Landfill site, handling hazardous, municipal and inert wastes
	Eastcroft Incinerator, Nottingham	Municipal solid waste incinerator
(b) Exempt sites		
Grundy & Co/ True For Golf	Cuedley Cross, Widnes	Exempt construction site accepting inert wastes for landscaping purposes
Railtrack	Newton-Le-Willows, St Helens	Former colliery site
J McIntyre Non Ferrous Ltd	Dunkirk, Nottingham	Exempt scrap yard

Appendix 2

Health and environmental impacts of waste disposal

Who is responsible for considering health and environmental impacts?

- 1 **The Department for Environment, Food and Rural Affairs** (the Department) provides the policy and legislative framework within which the Agency and the waste industry operate. It looks to the Agency for advice, but it is for the Department to ensure that the policy and legislative framework is based on sound science and takes proper account of health and environmental impacts.
- 2 **The Environment Agency** is responsible for ensuring that licences provide appropriate controls over waste and for advising planning authorities (who are responsible for strategic and land use planning) on the likely impact of proposed waste facilities. It needs to understand the health and environmental objectives of the Department's policy and legislative framework, and how waste can affect them.
- 3 **The Department of Health** is the lead Government department on health matters. Other interested bodies include the National Health Service, the Devolved Administrations, special interest groups, and business and industry.
- 4 The Agency believes that it needs to impose a practical interpretation on its responsibilities for human health, and to ensure that this interpretation fits with the responsibilities of other interested bodies. It intends during 2002-03 to agree an expanded memorandum of understanding with the Department, the Department of Health and the National Assembly for Wales to clarify respective roles and responsibilities and agree work priorities. And, in 2001, the Department established the Waste Health Effects Group, consisting of government departments, agencies, devolved administrations and other bodies, as a focus for research into the health impacts of waste management. The Group is primarily a forum for discussion, but in May 2002 it supervised a seminar to identify research needs in the area.

From whom does the Agency seek advice on health and environmental impacts?

- 5 The Agency has several internal sources of advice to help it assess the environmental impact of waste, such as its National Laboratory Service and its National Centre for Environmental Data and Surveillance. On health impacts, however, the Agency looks to others, such as the Department of Health and independent advisory committees, such as the Committee on Toxicity, to provide expert advice. The Agency seeks only to ensure that it has sufficient expertise to act as an 'intelligent client' for advice.

What conclusions have been reached about the health impacts?

- 6 Several research studies have tried to establish the impact on health of waste treatment and disposal. These studies have focused mainly on landfill, which has predominated as a method of waste disposal, and on waste incineration. The results of some recent studies are summarised in **Figure 37**.
- 7 The studies have found evidence of increased levels of ill health among people living near waste sites, but they have not been able to establish whether these increases have been caused by proximity to waste. Difficulties in establishing a causal link include limitations in the information available for the studies, for example on the prevalence of health problems; the presence of other potential sources of pollution such as industrial processes; and variations in factors that might also affect health, such as diet or smoking.

37 Some recent research into the health effects of waste disposal

Landfill: The European EUROHAZCON study published in August 1998 investigated non-chromosomal anomalies in the pregnancy outcomes of women living within seven kilometres of 21 landfill sites that contained some hazardous wastes in five countries. The study found that the probability of certain congenital anomalies was 33 per cent higher among people living within three kilometres of the hazardous waste landfill sites than between three and seven kilometres away. However, the study concluded that further work was required to establish whether the raised probability was caused by proximity to the landfill.

A subsequent EUROHAZCON report, in January 2002, investigated the rates of certain chromosomal anomalies (predominantly Down's syndrome) around 23 hazardous-waste landfill sites in Europe. The study found a 41 per cent higher rate of chromosomal anomalies within three kilometres than further away (three to seven kilometres), but the numbers of cases were small and the statistical confidence intervals were wide: it was unclear whether the risks detected by the study resulted from living near the landfills.

Following the 1998 EUROHAZCON study and concern over the Nant y Gwyddon landfill in Wales, the Department of Health in collaboration with the National Assembly for Wales, other Departments, and the Agency commissioned further epidemiological research from the Small Area Health Statistics Unit (SAHSU). The research was to cover the largest technically possible range of landfill sites in Great Britain: it eventually included 9,565 landfills, all of which had been in operation for some or all of the period 1982-1997. The resulting August 2001 report considered the probabilities of birth defects, low birthweight, still births and certain cancers among the population living within two kilometres of a landfill site: it compared them with the probabilities in the population of those living more than two kilometres from a landfill.

The study found that:

- The cancers considered in the study did not occur more frequently in the study population (those within two kilometres of a landfill site). This was still so when the analysis was restricted to the landfill sites licensed to take special (hazardous) waste.
- The rate of congenital anomalies overall, in the population living within two kilometres of all landfills, was one per cent more than expected. However, the rate of some congenital anomalies in the population living within two kilometres of landfill sites containing hazardous waste was seven per cent more than expected. The Committee on Toxicity observed that this finding merited further investigation.
- In the study population, the rate of low birthweight babies was five per cent higher, but there was no difference in still births.
- The rates of birth defects did not increase after the landfill sites were opened and the rate for abdominal wall defects went down.

The report commented that it was not clear that landfills were causing these effects and that other explanations were possible - such as limitations with the data, or the possibility that the study did not completely take into account other relevant factors such as occupation or the use of medicines. The advisory Committee on Toxicity, in reviewing the results of the study, considered the study to have been well conducted and a useful addition to the literature. The Committee were informed that a programme of research and reviews was underway on congenital anomalies and landfill sites, and that this included a project to measure emissions from landfill sites and to assess exposures of people living nearby. The Committee welcomed this important information that was lacking from the SAHSU study.

Incinerators: A SAHSU study published in 1996 investigated the incidence of cancer in 14 million people living near 72 solid waste incinerators. It found a statistically significant decline in risk with distance for all cancers combined, and for stomach, colorectal, liver and lung cancers, the findings included a 37 per cent excess of risk of liver cancer for populations within one kilometre of an incinerator.

At the request of the advisory Committee on Carcinogenicity, SAHSU did additional work on the excess risk of primary liver cancer. In 2000 the Committee on Carcinogenicity reviewed the SAHSU municipal-incineration findings as a whole. It concluded that any potential risk of cancer due to living near to municipal solid waste incinerators was exceedingly low and probably not measurable by the most modern epidemiological techniques.

Composting: Scientific reports during the 1990s identified *Aspergillus fumigatus*, a fungus released during the composting process, as a particular cause for concern. Further research carried out by the Department and the Agency indicated that concentrations of the spores of the fungus are likely to be reduced to background levels within a distance of 250 metres from the source. The research also showed that 250 metres is probably sufficient to deal with other releases from a properly operated composting facility such as noise, dust and odour.

Source: National Audit Office and Environment Agency

8 In 2001, a review of the published evidence on the health effects of waste was commissioned from the University of the West of England by the South West Public Health Observatory, one of eight public health observatories funded by the Department of Health. The review concluded that the data collected about waste are not detailed enough to allow meaningful assessments of potential health impacts that might arise

from waste management practices. Existing epidemiological research in this area is such that most studies are useful for generating hypotheses but are unable to test the hypotheses or to provide convincing evidence of a causal link between activities and a health impact. For waste management activities (other than sewage), the evidence was insufficient to demonstrate adverse health impacts.

- 9 Recent research has been inconclusive, but has not shown evidence of hazards to health. After taking advice from the Department, the Department of Health and others, the Agency has therefore decided that no changes are needed at present in its general approach to regulation of these facilities. However, following research concerns about bioaerosols (airborne fine particles carrying, for example, bacteria and fungal spores) caused by some composting techniques, the Agency introduced in 2001 a requirement for commercial composting facilities to be at least 250 metres from the nearest habitation or workplace, unless a site-specific risk assessment shows that bioaerosols can be kept at an acceptable level.

Appendix 3

Principal Legislation Affecting Waste

Main UK waste legislation

Title	Main measures included
Control of Pollution Act 1974 (COPA)	Introduced a system of waste management based on waste disposal plans and licences for waste sites.
The Environmental Protection Act 1990	Improved and developed the waste management system established by COPA including introducing financial provisions and technical competence requirements.
The Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991, SI No. 1624	Requires carriers of controlled waste to be registered with the Agency, unless exempt from the requirements to register.
Municipal Waste Incineration Directions 1991	Implemented EU Directives on incineration of waste.
Controlled Waste Regulations 1992 SI No. 588	Prescribed types of waste to be treated as household, industrial or commercial waste.
The Waste Management Licensing Regulations 1994, SI No. 1056	Established requirements relating to waste management licensing, the registration of waste brokers and dealers and a system of exemptions from licensing for low risk waste activities.
Environment Act 1995	Established the Environment Agency, which assumed the functions of the previous waste regulation authorities in England & Wales, as well as a broader role in the implementation and development of a national waste strategy.
Landfill Tax regulations 1996, SI No. 1527	Introduced a tax per tonne of waste disposed of to landfill, and a system of tax credits payable to approved environmental bodies through ENTRUST.
Special Waste Regulations 1996	Introduced a system of control over the handling and consignment of "special waste", including a requirement for prenotification of the Agency, and implemented parts of the Hazardous Waste Directive (Council Directive 91/689/EEC).
Producer responsibility Obligations (Packaging Waste) Regulations 1997, SI No. 648	Established a scheme under which responsibility for recovering packaging waste lies with packers, fillers, retailers and packaging manufacturers.
Environmental Protection (Prescribed Processes and Substances) (Amendment) (Hazardous Waste Incineration) Regulations 1998, SI No. 767	Implements provisions of the Directive on the Incineration of Hazardous Waste (ref 94/67/EC).

Title	Main measures included (continued)
Environmental Protection (Prescribed Processes and Substances) (Amendment) (Hazardous Waste Incineration) Regulations 1998, SI No. 767	Implements provisions of the Directive on the Incineration of Hazardous Waste (Council Directive 94/67/EC).
Pollution Prevention and Control Act 1999	Provides powers to make the integrated pollution prevention and controls (PPC) regulations.
Pollution Prevention and Control (England and Wales) Regulations 2000, SI No. 1973	Introduced an integrated "permitting regime for certain installations carrying out prescribed waste disposal and recovery activities. Implements Council Directive 96/61/EC).
Landfill (England and Wales) Regulations 2002, SI No. 1559	Implements Landfill Directive (Council Directive 99/31/EC).

Main European Union legislation on waste (as at November 2002)

Title	Main measures included
Directive on Waste (Council Directive 75/442/EEC)	The "Framework" directive introduced waste planning, permitting and inspection requirements.
Directive on Waste Oils (Council Directive 75/439/EEC)	Regulates the safe disposal of waste oil and promotes their recovery.
Directive on sewage sludge in agriculture (Council Directive 86/278/EEC)	Sets limits for heavy metals in sludges applied to agricultural land.
Municipal Waste Incineration (Council Directives 89/429/EEC & 89/369/EEC)	Introduced improved emission standards for new and existing incinerators.
Revised waste Framework Directive (Council Directive 91/156/EEC)	Amended the framework directive e.g. allowing exemption from permitting for certain lower risk waste recovery operations.
Directive on Hazardous Waste (Council Directive 91/689/EEC)	Provided a standard definition of, and laid down additional controls over, hazardous waste.
Directive on Batteries (Council Directive 91/157/EEC)	Sets limits on heavy metal content and requires separate collection of waste batteries.
Directive on the Incineration of Hazardous Waste (Council Directive 94/67/EC)	Introduced improved technical requirements for the incineration of hazardous wastes.
Directive on Packaging Waste (Council Directive 94/62/EC)	Sets targets for recovery and recycling of packaging.

Title

Main measures included

Directive on the Disposal of PCB/PCT
(Council Directive 96/59/EC)

Introduced new requirements for the disposal of PCBs/PCTs.

Directive concerning Integrated
Pollution Prevention and Control
(Council Directive 96/61/EC)

Introduced a new integrated permitting regime for major industrial and waste sites covering air, water and land pollution.

Directive on the Landfill of Waste
(Council Directive 99/31/EC)

Introduced new technical and operational requirements for landfills across Europe and targets for the reduction in landfill of biodegradable wastes.

Directive on end-of-life vehicles
(Council Directive 2000/53/EC)

Laid down targets and standards for the recovery of end of life vehicles.

Regulation of substances that
deplete the ozone layer
(EC Regulation 2037/2000)

Introduced improved controls on the disposal of ozone depleting substances.

Waste Incineration Directive
(Council Directive 2000/76/EC)

Introduced new controls over waste incinerators and set new objectives for the reduction of emissions of dioxins, cadmium, mercury and lead.

Appendix 4

Select Committee Reports on Waste

Since the establishment of the Agency in 1996, there have been six Select Committee reports commenting specifically on its regulation of waste. The scope and main findings of the reports are summarised below.

1. Environment, Transport and Regional Affairs Committee, Sixth Report 1997-98, *Sustainable Waste Management (HC 484)*

The inquiry sought to appraise the validity of the waste management hierarchy; the impact of proposed and recent legislation; the need for alternative policy instruments; and the role to be played by different waste management options in a future UK strategy. As regards specifically the Agency's licensing and inspection of waste, the Committee examined:

- engineering standards for landfills;
- training of Agency staff;
- inspection frequency and quality;
- the Agency's prosecution policy;
- adequacy of sentences for environmental crime;
- spreading of industrial wastes on land and other exempt activities.

The Government's response agreed to improve the standards of landfills, for example, through its implementation of the Landfill Directive, to place a high priority on training, to set minimum inspection frequencies for each type of waste site, to ensure firm but fair regulation, to raise Magistrates' awareness of environmental crime, and to review exemptions.

2. Environment, Transport and Regional Affairs Committee, Thirteenth Report 1998-99, *The Operation of the Landfill Tax (HC 150)*

This report focused on the operation of the landfill tax. However, recommendations were made covering:

- the lack of reliable waste statistics;
- reducing fly-tipping;
- adequacy of penalties for fly-tipping;
- the diversion of construction wastes to exempt sites.

The Government's response promised: improved information on waste; that the Agency would co-ordinate action against fly-tipping, for example by the trial use of miniature cameras; a variety of training initiatives for magistrates and landfill tax exemptions for the use of construction wastes for landscaping of landfill sites.

3. Environment, Transport and Regional Affairs Committee, Sixth Report 1999-2000, *The Environment Agency (HC 34)*

The Committee examined the progress the Agency had made since 1 April 1996. As regards specifically the Agency's regulation of waste, the Committee examined:

- the competency of staff in the waste management function;
- inconsistencies in policy and practice between the different regions of the Agency;
- the basis for waste charges and licence fees;
- sentencing for environmental offences;
- liaison between the Agency and industry;
- the Agency's role in planning.

The Government's response, in October 2000, promised to consider further the Report's findings through the first Financial Management and Policy Review (FMPR). It recognised that progress in training specialist staff and in integrating the diverse predecessor bodies was perceived as slow, but commented that "the magnitude of the task should not be underestimated". The response reported further initiatives to improve sentencing and to encourage closer liaison with industry and regional government. The Agency also issues annual consultation papers on its licence fees and publishes details of the environmental performance of regulated companies.

4. Environment, Transport and Regional Affairs Committee, Fifth Report 2000-01, *Delivering Sustainable Waste Management (HC 36)*

This report followed up the Committee's 1997-98 report on Sustainable Waste Management (described below) and focused mainly on issues of waste policy. As regards specifically the Agency's regulation of waste, the Committee examined:

- quality of data available on waste arisings;
- delays in proposals for revised exemptions from the waste management licensing system;
- standard of inspection and enforcement of incinerators;
- health risks associated with waste management facilities;
- the Environmental Crime Unit;
- illegal avoidance of the landfill tax at exempt sites.

The Government reply pointed to the strategic waste management assessments now carried out by the Agency for each planning region, agreed to publish a consultation paper on waste exemptions, to revise prosecution guidelines to allow effective action for frequent minor breaches of emission limits, to carry out research on communication of health risks, to increase funding for the Agency's Environmental Crime Unit, and to bring forward proposals for inspections of exempt sites.

5. Environment Food and Rural Affairs Committee, Fourth Report - 2001-02, *Disposal of Refrigerators (HC 673)*

This report examined whether the UK was ill-equipped to implement a new EU Regulation on Ozone Depleting. Recommendations were made mainly to Government, Parliament and DEFRA.

The Government response shared the Committee's concern over the speed at which legislation passed through Council and the European Parliament in the autumn of 1998, and acknowledged the need fully to consider the implications of European legislation prior to signing up to it. A commitment was therefore made to promote and extend the use of Regulatory Impact Assessments (RIAs) and to ensure European initiatives are analysed as early as possible in line with Cabinet Office Guidance on Better Regulation. The response clarified that a key element of this process will be to ensure that the regulator is involved in the negotiation process of European initiatives to analyse the practical implications from the outset of negotiations.

6. Environment Food and Rural Affairs Committee, Eighth Report 2001-02, *Hazardous Waste (HC 919)*

This report examined whether the particular problems of dealing with hazardous (special) waste have properly been taken into account in the development of waste disposal policies. Recommendations were made in the following areas:

- delays in issuing guidance to industry;
- improvements in data on hazardous waste;
- the role of incineration;
- improved consultation with industry and the public;
- funding and resources of the Environment Agency.

The Government reply accepted that delays in the issuing of European Waste Acceptance Criteria (WAC) had created uncertainty for the industry, but welcomed the Commission's new Action Plan on Simplifying and Improving the Regulatory Environment, and reiterated the vital importance of continuing to involve stakeholders, including the Environment Agency, in the negotiation and implementation of European legislation. It also confirmed a role for incineration within a diverse framework of management options, that the Government was taking steps to establish a national hazardous waste forum, and that a review of the Special Waste Regulations would enable more accurate data to be collected and handled.

Appendix 5

Waste Regulation in other Countries

During the study we contacted the ministries responsible for waste in a number of countries and states and seven agreed to provide information (four in Northern Europe and three from temperate countries outside the European Union). We found that, even within the European Union, there was a wide range of approaches to the regulation of waste. The European Commission recently commended the UK in setting up national waste regulatory authority. In most other countries waste regulation is partly or completely devolved to local authorities. Smaller waste facilities are generally regulated by regimes covering all industrial establishments. We found that limited information was available centrally on waste regulation practice. For example, none of the other countries or states could provide comparable data on inspection frequencies.

(i) European Union members

Austria

Licensing and inspection of waste sites is the responsibility of the nine Bundesländer. The Minister of Agriculture, Forestry, Environment and Water Management is also able to set specific requirements for waste. A Landfill Ordinance came into force in 1997 setting improved standards for all new landfill sites. All older sites must be compliant by 2004. The Ordinance includes a range of training requirements for landfill personnel.



Since 1989, Austria has operated a remediation fund for contaminated industrial and waste disposal sites. Landfills meeting the current technical standards contribute up to 21.8 Euros per tonne for household and hazardous waste. Sites which do not meet the required standards are required to pay 87 Euros per tonne and an additional 29 Euros if the site is not equipped to collect and flare landfill gas.

There is no information available centrally on the frequency of inspection of waste sites. Austria also operates a voluntary quality appraisal scheme which requires annual inspection.

The Waste Management Act 1990 requires all industrial plants employing more than 100 staff to obtain a licence which specifies how waste is to be minimised, recovered and disposed of, and to appoint a waste officer.

France

The Ministry for the Environment is responsible for waste policy in France. Licensing and inspection is carried out by the Directions Régionales de l'Industrie, de la Recherche et de l'Environnement (DRIRE) which is organised into 24 regions covering all 112 Departments. *The Environment Law* of July 1976 introduced nationwide controls over some 63,300 waste facilities, industrial installations and factory farms. A further 450,000 installations are registered with DRIRE and DDSV (veterinary services in charge of farming activity).



Licence applications are subject to review by the Departments who liaise with District Health councils and DRIRE. Applications for new landfills sites and incinerators take up to two years to complete as they are controversial and are subject to close scrutiny. Detailed licence conditions are imposed covering the site and for 30 years after the site closure.

Some 750 inspectors are employed nationally - a further 150 posts have been created following a major explosion in a fertiliser plant in Toulouse in September 2001 which killed 30 people. A total of 20,000 inspections were carried out of all sites in 2001. No distinction is made between waste sites and other industrial sites. Each DRIRE region determines its own priorities based on local industry and carries out a three yearly inspection programme. Higher risk sites are visited more frequently and inspectors will additionally visit waste sites in response to complaints. There are no standard inspection programmes.

Over 40 per cent of municipal waste is incinerated in France, a relatively high proportion by EU standards. In 1998 three French municipal waste incinerators were ordered to close after elevated levels of dioxins were discovered in milk from cows grazing near one of the plants. Wide-scale flouting of dioxin emissions limits across the country was exposed. While 78 of the 79 large municipal incinerators now conform to emissions limits, progress in tackling emissions from small municipal waste incinerators has been slower. Of 188 operating in 1996, 126 have been shut down, but only two thirds of the remainder meet legal emission limits in September 2002.

Germany (Baden-Württemberg)

National policy is the responsibility of the Waste Management Directorate of the Federal Ministry for Environment. However, implementing waste regulation such as licensing and inspection in Germany is a Region (Land) responsibility. There are frequent complaints from industry that this has led to inconsistencies in approach. Germany frequently introduces stricter regulations than those laid down in the European Directives particularly for waste incineration.



Within Baden-Württemberg, a Land with about 10.5 million inhabitants, there is an Environment Ministry with some 20 staff responsible for waste policy. The region is subdivided into four District Governments responsible for the licensing of landfills employing between five and ten persons each. Most waste disposal sites are owned and operated by one of the 44 local authorities (counties and cities).

Landfills are subject to waste licensing regime covering both planning and environmental concerns. Applicants must demonstrate that a pressing need exists and that a more suitable location is not available. Landfill sites may take up to 10 years to obtain a licence. Incinerators and other waste operations are subject to less onerous clean air regulations applied to all industrial planning applications. In principle a system of waste exemptions have been established. However, most commercial operations are too large to qualify for exemption.

There are a total of nine Trade and Factory Supervisory Offices in Baden-Württemberg with a total of nearly 600 inspectors who are in charge of environmental inspections and occupational health & safety inspections for all types of industrial and waste installations. There are currently no targets for frequency of waste inspections: some waste sites are controversial and attract complaints from local residents which result in frequent site visits. Every year, inspection teams carried out around 50 visits to hazardous landfills, 1,000 to other landfill sites and 3,500 visits to recycling centres.

Ireland

Licensing requirements for new waste sites were introduced by the Waste Management Act 1996. Landfills, larger composting facilities, hazardous waste disposal and treatment facilities require a licence from the Irish Environmental Protection Agency (IEPA). The Act introduced a timetable requiring all existing sites to apply for a licence by December 1999.



Local authorities are responsible for regulating all aspects of the production and movement of waste including hazardous wastes. Scrapyards, small composting facilities and small incinerators burning non hazardous waste require permits from the local authority. Certain local authority recovery activities may be carried on under a Certificate of Registration from IEPA.

The IEPA draws up the licence using information provided by applicants. There is a similar level of detail required on the operators' management of the site as in the UK licensing system. Licensed landfill sites are subject to four unannounced inspections a year. However all sites are currently subject to a detailed annual audit of the licence.

Responsibility for monitoring emissions to the environment rests with the operator who is required to prepare an annual report on compliance with licence conditions, complaints received etc.

(ii) Other countries

Canada (British Columbia)

Waste regulation in Canada is the responsibility of the 13 Provincial and Territorial Governments. Within British Columbia, the Ministry of Water, Land and Air Protection Service has policy and legislative responsibility for waste management under the Waste Management Act. The issuance and enforcement of licences and other permits is the responsibility of managers within one of the Ministry's seven regional offices.



For landfills, incinerators and some waste transfer stations subject to an approved waste management plan, the manager may issue an "Operating Certificate" setting out how the operator is to manage the facility. To date, the Ministry has introduced criteria for landfills taking domestic waste. These criteria will form the basis of the operational certificate which will replace the site licence.

Regional districts have authority under the Waste Management Act to require that other facilities and waste carriers obtain a Waste Stream Management Licence (WSML). These are intended to establish minimum administrative and operational requirements for facilities which do not create a discharge to the environment and, therefore, do not require an operating certificate, but where community concerns such as noise, dust, runoff, odours, operating hours are addressed. Standard licences have also been developed for recycling facilities and waste carriers.

All landfill sites should be inspected annually as a minimum. However, resource constraints have limited the numbers of inspections being carried out and this is not being achieved.

Waste discharge sites, except those exempted under an approved solid waste management plan, are required to pay the province a fee based on the quantity of waste discharged. Between 1990 and 2000, British Columbia achieved a 30 per cent reduction in the per capita amount of municipal solid waste going to landfills or incinerators. In 2000, 42 per cent of waste was recycled, 39 per cent was landfilled and the rest incinerated, primarily in the one major incinerator in the province, in Burnaby.

New Zealand

Growing concern over the environment led to the *Resource Management Act 1991* (RMA) which controls all land use and emissions to air and water under a single regime. Poor controls over the siting and engineering of landfills in New Zealand has left a legacy of an estimated 716 potentially contaminated landfill sites and over 6,500 other sites (excluding timber treatment sites). New Zealand published its first waste strategy in March 2002. High environmental performance standards for waste treatment and disposal facilities are a key part of the strategy. Targets will encourage local authorities to close or upgrade all substandard landfills by 2010.



Local authorities are responsible for implementing the bulk of the RMA, and are divided into two tiers (district/city and regional councils). The Act allows national standards to be set for specific disposal facilities. However, performance standards for waste treatment and disposal facilities are currently inconsistent. This reflects, amongst other things, differences in site characteristics, waste volumes, and the age of facilities, as well as the approach taken by consenting authorities.

There are no inspection frequencies set down for local authorities - although an annual inspection is frequently included in the terms of a permit covering landfill. Inspection

frequencies depend on the sensitivity of the site. There are no common inspection programmes, although the Ministry for Environment has sponsored guidelines for landfill management and monitoring as a means of encouraging good practice. Landfill practice is being reviewed, and regulations covering some aspects of landfill practice are likely to be developed under the RMA.

United States of America (Illinois)

In 1970 the Illinois General Assembly became the first state legislature to adopt a comprehensive Environmental Protection Act. Waste legislation in the United States is primarily the responsibility of individual states but is subject to oversight by the US Environment Protection Agency. Under the *Resource Conservation and Recovery Act* of 1976, the Agency's Office of Solid Waste issues minimum technical standards for non hazardous landfills and small hazardous waste producers. In 1999 the Agency issued standards for waste incinerators under the *Clean Air Act*. These were subject to legal challenge and revised standards are to be developed by 2005.



Landfill sites are licensed in a similar way to the UK. Waste transfer stations are also required to have permits. Lower risk waste sites (e.g. recycling stations, carriers of non hazardous wastes) are not subject to waste licensing requirements. Larger landfills and waste treatment facilities also require permits for any emissions to air or water. All new licence applications are subject to a six month review process for an initial review of new applications. Thereafter, three months are taken to produce the licence.

The Illinois Environment Protection Agency is a delegated authority for licensing and inspecting waste operations. Licensed waste sites are inspected four times a year. Quarterly inspections are the norm. Inspectors normally attend before the site opens to check that the site is secure. Inspectors can levy a spot fine of \$3,000 for three of the most common problems, for example, failure to adequately cover waste over night. Inspectors examine lorries arriving at the site particularly those carrying hazardous waste. The shippers and carriers are subsequently visited to ensure that waste is being consigned safely.