INTEGRATED POLLUTION CONTROL FACT FILE 9/9

"Our duty is to care for the environment as a whole...
and to ensure that the most polluting waste is disposed of in ways that do least harm to the environment as a whole".

ENVIRONMENT AGENCY

the environment agency

The Environment Agency for England and Wales is one of the most powerful environmental regulators in the world. It provides a comprehensive approach to the protection and management of the environment, emphasising prevention, education and vigorous enforcement wherever necessary. The Agency's creation on the 1st April 1996 was a major step, merging the expertise of the National Rivers Authority, Her Majesty's Inspectorate of Pollution, the Waste Regulation Authorities and several smaller units from the Department of the Environment.

Thames Region

England and Wales are divided into eight Environment Agency regions. Thames Region is responsible for the protection of a 13,000 square km area of great diversity. The Region extends from Cirencester in the west to Southend in the east and from Luton in the north to the Surrey Downs in the south. Because this area contains a fifth of the nation's population, development pressures and demands on natural resources are greater than elsewhere in England and Wales. Thames Region is sub-divided into three areas (West, North East and South East) which are the first point of contact for local issues.

Integrated Pollution Control, the subject of this booklet, is one of our key responsibilities. The others - Flood Defence, Water Resources, Conservation, Fisheries, Navigation, Recreation, Waste Regulation and Water Quality - are covered in separate booklets. In reality, we can't treat these responsibilities separately. Whatever we do must be done in the context of the whole region.

This means that the work of one specialist department is best carried out in collaboration with all the others. (So it's a good idea to read all the booklets, and not just this one. In that way you'll get a better understanding of what we are trying to do).

But the most important collaboration is with individual members of the public.

Newspapers, magazines, TV and radio keep people informed about the environment. Local groups can highlight any threats. Only public opinion can ensure that the environment continues to be given the care and attention it needs.

Taking care of the whole environment

To produce no waste at all would be best - and we all have to work towards that ideal. To produce no waste that is harmful to human and environmental health is next best - and this is a more realistic aim, although still far from being attained.

The current reality is that we still have to cope with vast amounts of waste and some of it is potentially harmful to humans or the environment or both. The Environment Agency's own duty always is to ensure that this waste is handled and disposed of in ways that cause the least possible harm to the environment as a whole. By fulfilling this duty, we also contribute to the protection of human health - though this of course is the prime responsibility of other bodies, notably the Department of Health and the Health and Safety Executive.

What is waste?

Waste is something that people have and don't want to have any more. It can be:

- household waste
- litter
- ordinary industrial and commercial waste
- so-called 'special waste' which includes acids and oils
- agricultural or quarrying waste
- sewage
- waste produced by large-scale complex industrial processes
- radioactive waste from nuclear power stations or hospital laboratories

The Agency itself does not handle, store or dispose of waste. It licences, regulates and supervises those who do, either local authorities or private organisations. For example - a big example! - it monitors and regulates the discharge of sewage and other potential pollutants into rivers and waterways under a 'consents' system.

The most polluting waste

Two of the categories listed above - waste produced by large-scale complex industrial processes and radioactive waste - present particular problems and the Environment Agency has uniquely far-reaching powers to deal with them.

In supervising other kinds of waste, the Agency's direct statutory powers, ie. those given it by Parliament, only come into play when the waste has been produced. Factfile number eight in this series explains how.

With the waste from large-scale complex processes, commonly known as 'Part A Processes' (as defined in the relevant Statutes of Parliament), as well as with radioactive waste, the Agency has direct statutory powers over the actual processes that produce them. These are in addition to the Agency's 'normal' powers to supervise waste storage, transport and ultimate disposal.

This Factfile describes how the Agency uses these powers.

Waste from large-scale complex processes

Typical examples of large-scale complex processes are to be found in chemical, metal, mineral and oil production. Other examples are incineration and power generation. The complexity is not only in the process itself, but also in the fact that the waste generated is capable of being released to any one of the three environmental 'media', land, air and water.

Traditionally, under previous legislation, releases of polluting substances from large-scale industrial processes to the three media were subject to separate control. No official note was taken of the fact that a particular pollutant would cause less overall environmental harm if it were released to, say, land rather than water, or to air rather than land. All pollution is bad, but some pollution in one medium is worse than the same pollution in another medium.

The principle now is that a pollutant should be directed to the environmental medium where the least environmental damage would be done. The principle is given legal force in the 1990 Environmental Protection Act as 'Integrated Pollution Control' (IPC). This Act also gave new powers to Local Authorities to control the releases to air from less polluting processes, the so-called 'Part B Processes'.

Integrated Pollution Control (IPC)

The concept of IPC is a world first. It has been taken up in a modified form by the European Union under the title 'Integrated Pollution Prevention and Control Directive' (IPPC). This directive will have force in the UK from 1999 for new installations, and from 2005 for existing ones. Our pioneering experience with IPC will give us a head start in implementing it.

IPC In brief

The three main objectives of Integrated Pollution Control are:

a. to prevent or minimise the release of the pollutants produced by the large-scale processes

b. to make any such pollutants as harmless as possible

c. to ensure that the pollutants are released into the medium - land, air or water - where they will have the least impact on the environment as a whole

More benefits

Persuasion and cooperation are usually more effective than enforcement (though enforcement always remains an option). In this connection, an extra benefit from the IPC system is that industry is offered a 'one-stop shop' on pollution control. This clarifies and simplifies the relationships between the Environment Agency as regulator and the operator of the process that is being regulated, makes a constructive dialogue more likely, and makes it more probable that the widest possible range of benefits will emerge.

IPC in practice is delivering these benefits.

- It is providing a framework of consultation that encourages the development of cleaner technologies and the consequent minimisation of waste.
- It is sufficiently flexible to be able to respond positively to the introduction of new methods of reducing pollution and to new understanding of the effects of pollution.
- Not least, it provides a means of our fulfilling relevant international obligations on environmental protection.

The concept - BATNEEC (and BPEO)

Companies applying to carry out the large-scale processes prescribed in the Act, must convince the Environment Agency that their plant, equipment, staff training, and procedures are fully acceptable. In practice, this means that they must show beyond doubt that they are using or propose using the 'best available techniques not entailing excessive cost' (BATNEEC).

The BATNEEC criterion is both demanding and sensible. It judges 'best available technique' against the best in the world, not against local standards. Its assessment of 'not entailing excessive costs' ignores any financial problems specific to the applicant. On the other hand, it is site-specific. The question it asks is whether the proposed techniques are the best and most environmentally cost-effective for that particular site, not whether this is the best possible site - although if the site is placed where the environmental effect of the process would be unacceptable, the process will not be given the go-ahead.

In short, the BATNEEC approach is driven by what is achievable rather than by consideration of the degree of pollution likely to be caused. The operator is also pressed to prevent the pollution at planning stage - to design out the pollution rather than rely on 'end-of-pipe' solutions.

BATNEEC is only the first hurdle. The next is BPEO - the best practicable environmental option - which does in fact focus on the effect of any pollution on the environment.

BPEO enters the scene if the process is likely to involve the release of substances into more than one environmental medium (and hence making an 'integrated' approach possible). The applicant has to show that due regard is paid to the BPEO.

BPEO represents the option which minimises pollution to the environment as a whole in both the short and long-term. IPC requires that BATNEC is used to achieve this. It means that a BPEO statement accompanying an application for permission to operate a process should normally include an assessment of the environmental effects of releases and the economic implications of a number of options for carrying out the process. The key point about the BPEO requirement is that it compels everyone to optimise releases to the three different environmental media. With traditional 'single-medium control', the choice was not even considered. As a result, pollutants could be released to a medium less able to cope with them than another would have been, and the environment as a whole suffered.

Powers through principles

It is the application of these two criteria, BATNEEC and BPEO, that gives the Agency its 'unique powers'. The improvement is obvious. Instead of waiting for a suspect process to cause pollution, the Agency can prevent it ever starting. What is more, if an already-approved process shows signs of performing below specification, or if new technology outdates it, it may have to upgrade or close down. Generally, most processes which were in existence before 1991 when IPC began have been made to upgrade and reduce the pollution they emit.

Public comment welcomed

Open-ness is an essential feature of the IPC system. Any application must be referred not just to the Environment Agency but to a list of other consultees as well. The applicant has a duty to advertise the application in a local newspaper and in the London Gazette. The Agency must also make the application available to public scrutiny and be prepared to consider any representations made to it. The Agency and the Local Authority in whose area the process is carried out keep a public register of all matters pertaining to the IPC application.

There is one important proviso to this publicity rule. Applicants can point out any information which they wish withheld on grounds either of national security or commercial confidentiality.

No handicap

IPC does not handicap industry. It does not impose unnecessary delays or restrictions - although statutory timescales are certainly involved. Those processes which involve frequent changes in input - in the speciality chemicals industry for instance - need to operate in a regime that continues to protect the environment but which allows necessary changes in the process to be made without unnecessary delay. Under IPC, it is possible for an 'envelope' of similar processes and release limits to be agreed within which the operator is allowed to make adjustments without the prior approval of the Environment Agency.

Recovering costs

The Environment Agency is empowered to recover costs incurred in operating IPC. Here the 'polluter pays' principle operates. There are three charges: an initial application fee; a subsistence fee payable annually to cover the ongoing costs of inspection, monitoring and enforcement; and a 'substantial' variation fee to cover the costs of considering an application for a major change to an existing process.

Currently, fees paid by applicants amount to approximately half of the money needed to fund the Agency's IPC function.

The force of the law

The requirements of IPC are backed by law. Those who operate a prescribed process without an authorisation or in contravention of the conditions within an authorisation or who otherwise fail to comply with the requirements of the Act may be prosecuted. Conviction in a Magistrates' Court carries a maximum fine of £20,000. For some offences, prosecution in the Crown Court is allowed. The penalty here can be an unlimited fine or up to two years in prison.

IPC's role in protecting the environment is too important to be left to good will alone.

Radioactive waste

Radioactive substances are used in an increasing number of industries and, of course, with great frequency in hospitals. As a result there is 'waste' to be handled, stored and disposed of. The Environment Agency is charged with the control and checking of these activities.

First, what is radioactivity?

Radioactivity means the spontaneous release of energy from certain materials in the form of invisible rays which can be harmful to man. It is all around us, and always has been. Human beings going about their everyday business at home, at school, in cities and in the country, are exposed to about 2,500 units of natural radiation. As a comparison, it is worth noting that people living near a typical nuclear plant could be exposed to a further ten units, still well within the officially-sanctioned acceptable dose level.

This natural radiation comes from sources such as underlying rocks and other living things. The fact is that every one of us, and every worm, amoeba and blade of grass, is radioactive, thanks to the radionuclide potassium-40 which is contained in all living tissue.

Radioactive substances - who uses them?

Hospitals rely on radioactive substances for a very wide range of diagnostic and therapeutic processes. Research laboratories use them for measuring and analysing samples of liquid, solid and gas. Power stations use them - in the form of uranium - to generate power. Manufacturers use them as elements in a wide range of everyday objects, such as smoke-detectors and thickness gauges.

The waste

The radioactive waste can be solid, liquid or gaseous. 'High-level' waste (from power stations) needs to be cooled and stored by those who produce it before disposal. Intermediate level waste (components, filters and the like from a variety of sites) is solidified, mixed with concrete and stored in steel drums. Low-level waste (solids and liquids) is contained in steel drums and disposed of in concrete-lined trenches. Hospitals and similar sites produce smaller quantities of waste which can be disposed of locally.

The controlling Agency

In a similar way to IPC, the Agency is empowered to charge users of radioactivity in order to recover its costs. The acquisition, use, and disposal of radioactive substances is governed by the Radioactive Substances Act 1993 (RSA93). Any company or organisation wishing to work with radioactive substances must be registered with the Environment Agency which also grants permission to accumulate or dispose of radioactive waste. Exemption is possible for minor uses. Registrations and authorisations are only granted if the Agency is satisfied that the applications comply with Government policy on the management of radioactive wastes. In other words, the Agency must be satisfied that the processes proposed by the applicant will deliver the required level of environmental protection. If the processes fall short of that, the application is rejected.

Net benefit to society

The White Paper 'Review of Radioactive Waste Management Policy' issued in 1995 states the Government's policy which the Agency has to implement. The policy is based on the recommendations of the International Commission on Radiological Protection and on the advice given to the Government by the National Radiological Protection Board. The principles are that practices involving the use of radioactive substances need to produce sufficient benefit to offset the radiation harm they cause, and that radiation doses should be kept as low as reasonably achievable.

So far as users/operators of radioactive materials are concerned, they need to apply the best practical means (BPM) to ensure that this basic principle is followed. They must ensure that waste is not unnecessarily created and that consideration is given to the best practicable environmental option for multi-media discharge - ie whether the waste should be discharged into the air, into water or to land - or to any combination of those media.

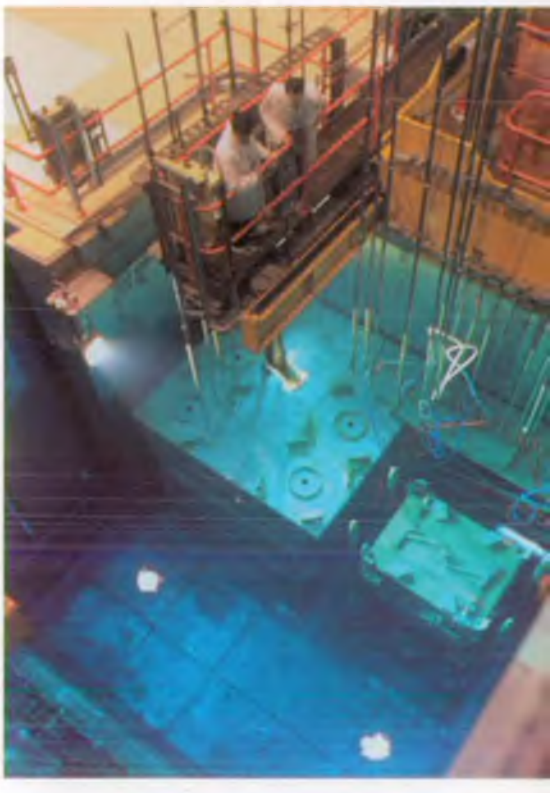
The BPM concept is one of continuous development in the sense that the 'best means' continue to get better as technology progresses. The 'best' does not remain best indefinitely.

What we do if they don't

The Environment Agency can serve Enforcement Notices on companies or individuals where breaches of the legislation are found. These Notices require remedial action to be taken within a given time-scale, with the ultimate sanction of prosecution.

Radioactive regulation in Thames Region

There are no nuclear power stations in Thames Region. If there were, we would regulate them and their activities. We do regulate the UK Atomic Energy Authority's site at Harwell, the Atomic Weapons Establishments at Aldermaston and Burghfield, and the manufacturing facilities at Amersham International (which produces and exports large amounts of hospital diagnostic and therapeutic equipment relying on radioactive substances for their functionality). We also regulate hundreds of other sites that use radioactive substances, most especially hospitals and universities.



Preserving the balance

Radioactive waste is far less immediately noticeable than other kinds of waste. Its monitoring and control require high levels of scientific expertise and understanding. The benefits of Agency regulation accrue to both people and to the environment.

The interests of both, of course, are ultimately and inextricably linked. In protecting the direct interests of the environment, the Environment Agency must also consider the direct interests of people. This is the balance that always has to be kept.

MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including Government.

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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

ENVIRONMENT AGENCY
GENERAL ENQUIRY LINE
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The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

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