



THE ENVIRONMENT AGENCY NORTH-WEST

POLLUTION

PROTECTION...PREVENTION...CONTROL

"An integrated approach to effective environmental management"

The Environment Agency is the new independent regulatory body in England and Wales with responsibility for environmental matters relating to air, land and water.

Pollution prevention and control is a large part of this responsibility and, under the aegis of the new Agency, the issue can be addressed in an integrated and more effective way.

Until April 1996, environmental pollution matters were handled by the National Rivers Authority, Her Majesty's Inspectorate of Pollution, the Waste Regulation Authorities and several smaller units from the Department of the Environment.

In one bold and imaginative step, the Environment Agency combined the well-recognised and respected expertise of its predecessors to form what is now one of the most powerful environmental regulators in the world with a remit and responsibilities which are far-reaching.

The Environment Agency North West - based in Warrington, Cheshire - is one of eight regional centres for England and Wales taking in the counties of Cumbria, Lancashire, Greater Manchester, Merseyside and Cheshire.

Almost X million people live in an area of 14,445 km². The geographical and economic diversity of a region which includes areas of outstanding natural beauty and the heavily urbanised conurbations of Greater Manchester, South Lancashire and Merseyside clearly poses a variety of challenges in the prevention and control of pollution.

It is the Agency's aim to be pre-emptive in its approach to pollution, rather than having to resort to the considerable regulatory powers at its disposal. In its

newly-integrated form, the Environment Agency can take a much wider view of environmental protection and management than was previously possible. This will have considerable benefits for both the present and future generations in the pursuit of 'Sustainable Development.'

SUSTAINABLE DEVELOPMENT

- A world-wide environmental goal

Sustainable Development is defined as:

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

To achieve this, the present government has set seven objectives:

1. To adopt an integrated approach to environmental protection and control in order to protect natural resources and monitor the impact of all activities on the environment.
2. To achieve environmental aims without imposing disproportionate costs on industry and society as a whole.
3. To follow clear and effective procedures for serving the Agency's customers, including the development of single points of contact.
4. To adopt the highest professional standards by using the best possible information and analytical methods.
5. To organise its own activities to reflect 'best environmental practice' and to deliver value for money to those who the Agency charges as well as tax-payers as a whole.
6. To provide the public and charge-payers with clear and readily available advice and information on its work.
7. To develop a close and responsive relationship with the public (including local authorities and regulated organisations, as well as other bodies which have a close interest in the Agency's work.)

'Sustainable Development' isn't simply a handy catch-phrase. It will in fact underpin environmental thinking for generations to come.

The Environment Agency recognises this and stands at the forefront of a new

commitment to managing the environment in general - and pollution in particular - for the long-term well-being of everyone.

Pollution undermines the fabric of people's lives. Unchecked, it is a major threat to both society and individuals. The work of the Environment Agency will be to address the problem in both an ongoing, short-term and operational way, as well as in a more strategic sense where awareness and education - and prevention rather than prosecution - are guiding lights for the future.

POLLUTION MANAGEMENT IN ACTION

The Environment Agency North West is tasked with nothing less than managing and maintaining the ecological balance in a region where industry, agriculture and densely populated areas present enormous and ever-changing challenges.

By definition, ecological balance is part of a continuing cycle and interaction between plants and animals (including people!) and the elements of land, water and air. None occupies a self-contained compartment. Pollution can often affect more than one element and is therefore best handled by the all-embracing remit of the Environment Agency.

There are many examples of the way pollution 'overlaps' more than one element. Agricultural or manufacturing waste may not only damage surrounding land; there may be leaching into nearby rivers or underground water-systems. Industrial gas emissions may cause air pollution which is then washed back to earth by rainfall. Domestic waste on landfill sites can cause both gaseous emissions and leaching into water courses.

These are examples which only hint at the huge problems which the Environment Agency has to face. In the North West, as in so many other areas of modern Britain, there is a wide spectrum of actual and potential pollution issues to be addressed on all fronts.

WATER POLLUTION

It is the aim of the Environment Agency North West to protect and improve the quality and quantity of both surface and underground water in the region.

Without strict controls and a development strategy for the future, drinking water sources, irrigation supplies and the continued survival of entire river and coastal habitats would be at risk from pollution.

The sources of pollution are many - chief among them being industry, agriculture, human sewage and domestic waste.

Pollution can be caused deliberately or through negligence, by accident or vandalism. There is no mistaking the devastation brought about by decades of

pouring effluents into our rivers and coastal waters.

Since 1973, however, the European Community has introduced several proposals which have had a dramatic effect on water pollution in this country.

The Environment Agency is charged with the responsibility - and a unique opportunity - to create the high quality, unpolluted water environment expected by the public today.

In the North-West, there are more than 6,631 km of rivers, canals, estuaries and coastal waters which are monitored by the Environment Agency.

There are currently around 4,800 discharges of effluent and 597 sewage works in the region which are all tightly controlled by Environment Agency 'consents'. Unfortunately, there are other forms of pollution which find their way into surface and groundwater which are more difficult to control.

*** Sewage and Domestic Waste**

Effluent from most homes in the North-West is usually treated in sewage works before being discharged into a river or the sea. However, the region suffers from a legacy of inadequate sewers and sewage treatment facilities.

As a result, too much untreated sewage reaches the region's rivers from storm overflow. High levels of organic matter will remove dissolved oxygen from water and threaten the survival of fish and the organisms on which they feed.

To redress this problem, the Environment Agency is in the early stages of a £4 billion development programme to improve and renew sewers and sewage treatment facilities.

Domestic waste is also a major cause of water pollution. Oils used for car engines, heating and cooking, for example; the effluent produced from washing cars; as well as hazardous household and garden chemicals will all find their way into rivers when dispatched into the drainage system.

*** Industrial Waste**

All industrial sites are a threat to the natural water environment. Not surprisingly, the heavy concentration of industry in the North-West has created some of the most seriously polluted rivers in the UK, notably the River Mersey.

Waste produced by industry varies enormously in composition and can find its way into rivers or the sea directly or via a sewage treatment works. In certain

cases, industrial waste can be discharged directly into the water environment provided official permission has been given by the Environment Agency.

Industrial effluents pollute rivers following spillages or deliberate dumping. Disused or badly damaged mines and tip-sites can also pollute waters by leaking a steady flow of toxic waste, often over many years.

This untreated industrial waste poisons the water and robs it of life-sustaining oxygen. The environmental impact can be devastating for wildlife habitats, killing fish and the invertebrates on which they and many other animals feed.

*** Agricultural Waste**

In rural areas such as Cheshire, North Lancashire and Cumbria, the main threat to the water environment is usually from farms, particularly dairy farms.

The range of farming-related pollutants all pose a potentially lethal threat to river life. For example, the liquids created from silage-making - the winter feed for cattle made from compressed grass - can be 200 times more polluting than raw sewage.

Cattle slurry, dairy washings, milk and sheep-dip are also highly polluting, as are the increasing quantities of chemicals used as part of the intensive farming culture.

Farm waste is not legally permitted to enter the water environment, and yet it can find its way into rivers by soaking through the soil, being deliberately dumped, or accidentally spilled. Sometimes, thousands of fish are killed following a single spillage.

AIR, LAND & WATER POLLUTION - THE INDUSTRIAL THREAT

North-west England is one of the country's most industrialised regions, with vast swathes of Greater Manchester, South Lancashire and Merseyside given over to thousands of manufacturing and processing concerns.

Many industrial activities involve a range of potential pollutants which threaten more than one of the environmental elements - air, land and water.

The fully integrated approach which the Environment Agency North West has adopted towards pollution means that the regulation and control of large and complex industrial processes can be handled in their entirety. Specific problems

associated with radioactive waste also fall within the Agency's brief. (Less polluting processes are regulated by local authorities.)

The forerunner of this 'total' approach to environmental matters was Integrated Pollution Control (IPC), a system first introduced as part of the Environmental Protection Act, 1990. Its aim: to prevent releases of pollutants to air, land and water using one set of rules applicable to all environmental elements.

Industrial processes which produce potentially harmful materials are identified under the 1990 Act as 'prescribed processes' and 'prescribed substances'. Currently, the Environment Agency regulates over 2,000 industrial processes.

An operator of a 'prescribed process' needs an 'authorisation' to carry on that process. This will not be issued until an operator can prove that - without incurring excessive costs - the best available techniques are being used to prevent, minimise and render harmless releases from the process.

The stated objective of IPC is to look for the best practicable environmental option. In other words, adopting an approach to pollution control which views releases from industrial processes in the context of their effect on the environment as a whole.

Radioactive Waste

Measures broadly similar to IPC in conventional industry are used to regulate radioactive materials and waste. The aim of regulation under the Radioactive Substances Act, 1993 is to protect the environment and the public by controlling the production, management and disposal of radioactive waste.

Companies using radioactive materials need to be registered and their accumulation and disposal of waste needs to be authorised under the Act, subject to strictly defined and controlled conditions.

For authorisation to discharge waste into the environment, companies must provide evidence that the environmental impact of the discharges will be low and any resulting exposure of the public to radiation will not exceed nationally accepted limits.

Authorisations for waste disposal from nuclear licensed sites are not issued before wide consultation with local interest groups and the public. It is the job of the Environment Agency to ensure that all authorisations are complied with - whether for radioactive waste material or industrial processes.

Monitoring & Enforcement

A large degree of self-regulation is undertaken by companies whose industrial site or operation is authorised. They work closely with Environment Agency inspectors.

Conditions set out in authorisations include provisions requiring operators to manage, supervise and control their own sites and the processes they operate, monitor their emissions, measure their performance against these parameters - and report back to the Environment Agency.

This feedback is examined at regular intervals and inspectors make subsequent site visits to ensure the system is being operated honestly and effectively.

All information relating to substances, processes and operations, together with the authorisation or registration of each process, is placed on Public Registers for free and open scrutiny.

Where conditions set out in an authorisation are not complied with, the Environment Agency will support operators' efforts to remedy their own failings. Where this does not succeed, a process can be compulsorily halted if a serious pollution risk is imminent - or the authorisation can be revoked.

In these cases of non-compliance, the Environment Agency will aim to help companies to put matters right, but will use its powers to issue enforcement and prohibition notices, and in serious cases will prosecute if necessary.

WASTE POLLUTION - A UNIVERSAL CHALLENGE

Waste is everywhere. It is being created every day - by people as consumers, in homes, shops, offices and factories.

The potential to pollute is enormous. Waste can damage the environment, human health, the amenity of an area, the profitability of a business.

To ensure that the future management of waste becomes more sustainable is one of the biggest challenges of our time. The Environment Agency North West has a responsibility to ensure that waste minimisation, together with reducing the quantities of waste to be disposed, are priorities throughout the region.

Not surprisingly, many companies in both the manufacturing and service sectors have already recognised that by minimising the costs associated with waste they can improve their profit margins.

Around 2 million tonnes of industrial, commercial and household waste are produced every year in the predominantly rural county of Cumbria alone. In the UK as a whole, that figure soars to 435 million tonnes!

A major strength of the Environment Agency is its capacity to take a broad environmental view of how the effective and efficient control of waste can best be managed across all of nature's boundaries.

The government's policy of 'sustainable waste' emphasises waste minimisation, re-use and recovery. As a nation, the aim is to produce less waste, gain as much benefit as possible through re-cycling, and to ensure that the final disposal of this minimised waste is done in an ecologically-friendly way.

There is no doubting the growing public concern and demand for higher standards of waste treatment and disposal. As an example, increasing numbers of risk assessments are being carried out on landfill sites to determine whether leachate or landfill gas is affecting the immediate environment. Similarly, demands for higher standards on landfill sites have led to improved designs and engineering.

Ever-growing quantities of waste obviously call for careful waste management. This not only encompasses the day-to-day cycle of waste production, treatment, recovery/re-cycling and the final disposal and aftercare of landfill sites. It also means making adequate provision for waste disposal in the future.

With justification, public expectations are high. Through well-established systems of licensing, monitoring and enforcement, however, the highly experienced and skilled Inspectorate of the Environment Agency North West has a solid base on which to build progressive waste management policies well into the next century.

Waste Management Licensing

All those who treat, keep or dispose of 'controlled' waste are required by the Environment Agency to hold a special Waste Management Licence.

'Controlled' waste is any kind of household, commercial or industrial waste. It includes scrap metal, clinical waste, unwanted surplus substances, building or demolition waste - anything which is disposed of as broken, worn out, contaminated or spoiled in some way. Much of the so-called 'uncontrolled' waste arising from agriculture, mining and quarrying is steadily being brought into the 'controlled' waste category.

Inevitably, with such a wide area of responsibility, there has to be a strict regulatory framework with back-up sanctions available to ensure compliance.

Environment Agency Inspectors carry out detailed audits of licensed sites to check that the conditions attached to a licence are being met and that there are no indications of pollution. More specific monitoring may analyse samples of waste. In yet other cases, field tests may be carried out to monitor landfill gases and surface waters to provide a picture of the environmental impact a licensed site is having on its locality.

If the conditions of a licence fail to be met, even after detailed discussions to find a remedy, a licence may be suspended or revoked. In extreme cases, court action may be taken.

Handling Waste

All carriers of controlled waste - with few exceptions - must be registered with the Environment Agency. In Lancashire alone, there are 70,000 registered carriers of waste ranging from large operators to small jobbing builders.

Every carrier, including international companies operating in this country, can be found on a national database which helps in verifying compliance with the legislation as well as making it easier for waste producers to check the credentials of those who carry their waste.

Besides the general 'Duty of Care' - which applies to anyone who keeps, treats or acts as a broker and has control over waste - there is also a set of documentation procedures which helps to keep track of hazardous wastes such as prescription-only medicines, highly flammable, corrosive or poisonous substances. Special rules also apply to the export and import of waste, including radioactive materials.

Duty of Care

Under the provisions of the Environment Protection Act, all producers of waste must ensure that it is dealt with in an environmentally acceptable way. The overall aim of the Duty of Care is to:

- * Prevent the unlawful disposal or treatment of waste
- * Prevent the escape of waste from their control
- * Transfer the waste only to an authorised person or for authorised transport purposes
- * Pass on a written description of waste consignments when waste is transferred to another person

**THE ENVIRONMENT AGENCY
- GUARDIAN OF THE ENVIRONMENT**

As custodians of the planet for future generations, everyone can see that the newly-formed Environment Agency is very much in step with present-day thinking.

Integrated pollution control and management is now no longer an aspiration. In its regionalised form, the Agency has a co-ordinating presence which provides grass-roots responses to local challenges across all environmental elements.

The service delivered by the Environment Agency to its customers places the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer excellent service and value for money.

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