

EA-MIDLANDS ^{Box}
4

**POLLUTION
PREVENTION**

SITE RIGHT

**Industrial Pollution
Prevention & Control**

Midlands Information Centre
Environment Agency
Olton Court,
10 Warwick Road,
Olton, Solihull,
West Midlands B92 7HX
Tel 0121 708 4651 / 4772



**ENVIRONMENT
AGENCY**

ENVIRONMENTAL MANAGEMENT & POLLUTION CONTROL

The Environment Agency is the leading public body protecting and improving the environment in England and Wales.

It's our job to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner, healthier world.

Our work includes tackling flooding and pollution incidents, reducing industry's impacts on the environment, cleaning up rivers, coastal waters and contaminated land, and improving wildlife habitats.

The Environment Agency controls pollution by authorising complex industrial processes, licensing waste activities and consenting discharges to rivers and groundwater. The Agency has powers of enforcement and prosecution in order to safeguard the environment in all its forms. We prefer to advise and assist, but will not hesitate to prosecute offenders where necessary.

Agency staff are on call 24 hours a day, all year round, to respond quickly to emergencies and major spillages, and to give on-the-spot advice, minimising the worst effects of a pollution incident.

INTEGRATED POLLUTION CONTROL (IPC)

In 1990, a new control system of Integrated Pollution Control (IPC) was introduced for the more complex and potentially polluting processes (now known as Process Industry Regulation (PIR)). Hundreds of industrial processes are subject to IPC. The operators of these processes must comply with conditions set out in their IPC authorisation – which includes emission limits, operating standards and a requirement to monitor releases and report the results.

INTEGRATED POLLUTION PREVENTION AND CONTROL (IPPC)

The EU Directive, Integrated Pollution Prevention and Control (IPPC), was enacted in the UK in August 2000 via the Pollution Prevention and Control (England and Wales) Regulations 2000. IPPC aims to prevent, reduce and eliminate pollution at source through efficient use of natural resources, helping industrial and intensive farming (pig and poultry) operators move toward environmental sustainability. IPPC is similar to IPC but goes further – by covering the additional areas of noise pollution, energy efficiency, waste minimisation and environmental management. IPPC also applies to the whole installation (or site) whereas IPC applied only to the process. IPPC is a rolling programme of permitting, which will eventually replace the IPC system.


SOLID WASTE

All facilities keeping, treating and disposing of controlled waste, are regulated by the Environmental Protection Act 1990 and the Waste Management Licensing Regulations 1994. In England and Wales we produce some 400 million tonnes of waste annually, from households, business and industry. The safe handling, treatment and disposal of this waste is essential to the health and well-being of the environment and the community.

WATER QUALITY

Rivers and the sea have long been used for the disposal of domestic and industrial effluents which have historically had a devastating impact on the environment,





particularly in heavily populated and industrialised areas. All discharges to the water environment whether from industry, sewage treatment works or other sources require the written permission of the Environment Agency in the form of a consent or an IPC Authorisation. This is a legal requirement and the permission will contain conditions relating to the quality and quantity of the discharge. Without a permission, discharges to watercourses are illegal.

THE PREVENTION OF POLLUTION WITH THE SITE RIGHT PACK

As environmental improvements are made, the emphasis moves towards the prevention of pollution and this 'Site Right' pack is designed to help industrial sites implement effective measures principally for the prevention of water pollution. It is designed as an advisory pack and it is the company's responsibility to ensure that all aspects of legislation are complied with at all times. The identification of the appropriate measures for each site can be facilitated by an advisory site audit by an Agency officer. The guidelines in the pack are intended to offer both practical measures and ideas for management improvements and many can be implemented with little or no cost implication for the company.

The implementation of these guidelines will help to ensure that no pollutants from your site escape into the environment.

Your local Environment Agency officer is always willing to give advice. A phone call is cheap but a fine may be expensive.

You could be fined up to £20,000 in a Magistrates Court if found guilty of polluting the environment. In Crown Court you could face an unlimited fine.

IS YOUR SITE RIGHT?

- Much of the emphasis of pollution prevention is on design, information, technology and strategy. Without this support work in the office, actual pollution prevention measures on the shop floor will rarely be successful. The company must all work together to achieve complete pollution prevention awareness.
- If you are starting from scratch, the design and location of the industrial unit is vital. Ensure that a suitable disposal route is available for the type of discharge anticipated, and that a suitable waste storage area is available. Include it as one of the important criteria for choosing a factory.
- Ensure a comprehensive drainage plan of the site is available. If it is not, get someone to draw one up for you and familiarise all the appropriate staff with it. If possible colour code all manholes and grids, for ease of identification.
- Follow maintenance programmes through with a reporting procedure so all problems are resolved as quickly as possible.
- Have a complete survey done of the site to identify problem areas and prepare a programme of works to correct these. The Agency will give relevant advice.
- Make sure all staff are aware of the appropriate legislation and its implications.
- If you have a direct discharge to the watercourse, make sure you know where it is, that you have an Agency consent and that you have a system for logging your inspection.
- Encourage pollution prevention awareness in staff, perhaps with an incentive scheme.



BE PREPARED!

- Introduce a training programme to increase the awareness of all staff of the necessity of pollution prevention, including contractors. Perhaps introduce posters or newsletters to further improve staff awareness. Make sure everyone knows where they can safely carry out every operation without causing pollution.
- Agency staff can help with training and a video is available.
- Make all staff aware of important contact numbers by effective use of posters e.g. Environment Agency, water company, emergency services.
- Be aware of your site drainage system and have a comprehensive drainage plan available at all times.
- Label all tanks and containers, including waste storage containers, with the nature and volume of their contents to prevent overfilling.
- Have absorbent materials and/or drain plugs available on site in case of any unforeseen spillages or accidents.
- Ensure the site is vandal proof – secure fencing and locked gates etc.
- Supervise and log the delivery of all potentially hazardous or polluting chemicals and oils onto your site. Provide catch pits for all delivery points and ensure they are not allowed to overflow.
- Have contingency plans for all eventualities and make staff and contractors aware of them.
- Carry out simulated spillages using dechlorinated water to test pollution prevention measures.
- All chemical storage must be protected by a bund wall but **REMEMBER** bund walls must be watertight which means **NO HOLES!** Do not make a hole in the bund wall to let rainwater out as this renders the bund wall useless.
- Arrange a proper disposal route for rainwater which has collected within the bund wall – check them and have them emptied regularly.
- Check bund walls and other storage equipment regularly for leaks and other weaknesses.
- Site all bulk containers in easily accessible places so that maintenance is not a chore and vehicles are less likely to damage the bund wall.
- Make someone responsible for a regular maintenance and inspection schedule for all storage vessels.
- Contain spillages wherever possible – **NEVER** wash them down the surface water system.
- Contact your local Environment Agency if you require further advice.

The pollution of a watercourse is a **Criminal Offence** and prosecution can result in fines up to **£20,000** plus expensive clean up costs!



BULK STORAGE

More and more people are introducing the bulk storage of chemicals and raw materials on site. However, the implications for pollution prevention of such storage must be considered.

IS YOUR SITE RIGHT?

- All bulk storage of chemicals and raw materials, whether solid or liquid, must be protected by a bund wall. The wall and floor must be impermeable to the material stored within it and must contain no drains or valves.
- Ensure that overflow pipes on all tanks discharge within the bunded area. **REMEMBER** any tank situated on a roof may drain to the surface water system via the guttering – avoid roof storage wherever possible.
- Consider the storage of chemical drums too. These must be within a bunded area to contain any spillages. Ensure vehicular access to such areas is protected too, by a ramp or a channel, but ensure the use of the ramp does not itself cause regular spillages!
- Have automatic cut-offs on all delivery pipes to prevent spillage due to overfilling.



TRADE EFFLUENTS

A trade effluent may be defined as "A liquid (which may or may not contain suspended particles) produced in the course of a trade or industry from trade premises".

Such trade effluents are pollutants and must not be discharged into a surface water system. They will often be acceptable into the foul sewerage system but a consent to discharge must first be obtained from the local water company.



IS YOUR SITE RIGHT?

- Trade effluent drainage systems and treatment plants should be checked for leaks/spillages on a regular basis. All treatment plants, storage vessels and chemical storage areas must be protected with impermeable bund walls and floors. Remember that bund walls for chemical storage often need special protection to render them impermeable.
- The discharge point of all open gullies within the factory must be checked and recorded and any open surface water gullies within the factory must be suitably protected. This may be a special problem if an extension has been built incorporating "outdoor" yard drains into the shop floor.
- Some effluents may be small in volume or considered "clean" but the disposal route of ALL trade effluents must be considered:-

• Compressor blowdown,
• Steam condensates,
• Pressure testing liquids,
• Cooling water,
• Boiler blowdown,
• Air conditioning, and many more

WRONG CONNECTIONS

It is important on an industrial site that every drain is identified as being connected to the surface water system or the foul sewerage system. Without this knowledge it is impossible to be sure that all drainage is discharging to the right system. Wrongly connected effluents can cause severe pollution problems and they can prove difficult to trace thus it is best to ensure everything is going the right way in the first place.



IS YOUR SITE RIGHT?

- Toilets must always be drained to a sewage treatment facility, often by sewer to the local sewage works. They must not go directly into a surface water system. Remember toilets in new extensions are often connected into the nearest available drain – check this is the foul sewer.
- If a septic tank is used for the treatment of sewage, make someone responsible for its upkeep and ensure that it is maintained and emptied regularly (you may need a consent, check with your local Agency office).
- Sinks and wash basins must also be drained to the foul sewerage system so it is important to consider their location and the ease of connection to this system.



- Many other facilities which may be overlooked must also be drained to the foul sewerage system;

- | | |
|--------------|---|
| • Mess rooms | • Canteens |
| • Darkrooms | • Laboratories |
| • Showers | • Dishwashers and washing machines etc. |

- As a general rule remember that only clean uncontaminated water (e.g. roofwater) can be discharged to the surface water system.
- Ensure all your staff know which drainage should go down which drain; this may be facilitated by colour coding foul sewers and surface water drains and training staff as to which is which.
- Check on the drainage plans before any new building work is undertaken to ensure the drainage is going to be correct and supervise draining connection to ensure the right connections are made.



WASTE STORAGE AND DISPOSAL

More importance than ever is being placed on waste disposal in today's environmentally aware climate. Amidst all the storage and disposal facilities for all wastes, care must always be taken that contamination of the surface water and groundwater system does not occur, and that waste is stored in such a manner that escape is prevented.

IS YOUR SITE RIGHT?

- Generally, waste storage must always be appropriate for the job in hand. Any storage vessel should be specifically designed to store the waste in question and it should be of sufficient capacity to avoid overflows or spillages.
- All wastes must be stored in specifically designated areas which are isolated from the surface water system. The area should be bunded to contain spillages and must be checked regularly. Any hazardous waste must be labelled accordingly.
- Skips must be kept in a kerbed or bunded area which is isolated from the surface water system. The skips must be enclosed or covered unless stored within a building.
- Waste compactors regularly discharge an effluent which must **NOT** be allowed to enter the surface water system.
- If cleaning of waste storage areas and containers is carried out, ensure it is done in an area which is isolated from the surface water system – this will possibly be allowed to drain to the foul sewer but check with your local water company first.
- Have waste taken off site regularly – do not allow large volumes to accumulate, and ensure that you transfer waste only to a registered or exempt waste carrier or remove waste to a suitably licensed facility.



REMEMBER you have a 'Duty of Care' to ensure that waste is stored in such a manner that it can not escape from your control, does not give rise to offensive odours and does not attract vermin, birds or insects.

CLEANING

All day, every day people are busy cleaning things; vehicles, components, plant and equipment, floors, surfaces, containers and much more. All this activity generates a great deal of dirty water and the disposal of this effluent must be carefully considered. All cleaning agents are pollutants as are the materials they are trying to clean off. These include detergents (even the biodegradable ones), disinfectants, degreasers, dirt, oil and many more. **DO NOT** allow these to enter a surface water system.



IS YOUR SITE RIGHT?

- Carry out all washing/cleaning operations in a designated area which is marked out. This includes washing any vehicles.
- Isolate all cleaning areas from the surface water system. Wash water should drain to the foul sewer, but check with your local water company first.
- Mark the area clearly so everybody knows where cleaning activities can be carried out.
- Do not allow yard areas to be cleaned by hosing to the surface water drain.
- Ensure all contractors and/or cleaners know where they can dispose of waste waters – make sure a foul sewer connection is available.
- Ensure mobile steam cleaners are only operated in an area isolated from the surface water system – put up a sign so everyone knows where they can use it.
- Do not allow wastewaters containing detergents to enter oil interceptors; it will render them useless and the oil will be washed through.
- Think carefully about drainage considerations before buying a mobile steam cleaner.





OIL

Various types of oil are the cause of a multitude of pollution problems. Since most industrial sites have some oil storage, for heating, processing and manufacturing, oil can soon become a major problem in industrial estate drainage. Since oil is often stored outside, spillages can quickly and easily find their way into a surface water drain. A small amount of oil causes a big problem; one gallon of oil covers one acre of water!

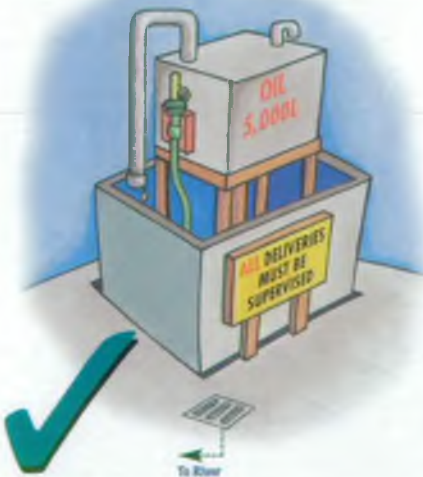
IS YOUR SITE RIGHT?

- All oil storage vessels, from small drums to very large vessels, should be bunded. That is they should be protected by an impermeable wall and every pipe, valve and delivery point must be within the wall. See the Agency advisory leaflet on oil storage for further details.
- All delivery areas and pipes should be protected by bund walls, catch pits or ducts so any spillages can be contained.
- As far as possible, avoid underground pipework. Any underground pipework, which can not be avoided, should be tested regularly to ensure it is not leaking.
- Have oil absorbent material available on site for any unforeseen spillages or accidents.
- Oil interception must be provided on any surface water drain at risk from possible oil contamination. These include fuelling up areas, vehicle parking areas, etc.

BUT REMEMBER! Oil interceptors must

- 1 Be maintained and emptied regularly,
- 2 Be designed to a sufficient size,
- 3 Be protected from detergents,
- 4 Not be used for soluble oils.

Contact your local Environment Agency office if you require further advice.



MATERIALS HANDLING

The handling of materials always encompasses a risk of spillages and accidents. It is therefore, important to identify these risks so they can be minimised wherever possible.



IS YOUR SITE RIGHT?

- All loading/unloading areas should be designated, marked and isolated from the surface water drainage system.
- Routes of transfer for all materials should be identified and the complete route should be protected against spillages to the surface water system.
- Avoid underground pipework where possible as faults are more difficult to detect and can lead to groundwater contamination.
- Avoid manual handling where possible to reduce the risk of human error and accidents.
- Yard areas used for manufacturing or material handling processes must be isolated from the surface water drainage system by bunding. Roofing such an area is an advantage to prevent the accumulation of rainwater, fire regulations permitting.
- Always use appropriate containers for materials; are they big enough, sturdy enough or will they corrode easily and leak?
- Minimise the necessity for materials handling and transfer where possible to reduce the risk.



ENVIRONMENT AGENCY



072299

CONTACTS:

THE ENVIRONMENT AGENCY HEAD OFFICE

Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD.
Tel: 01454 624 400 Fax: 01454 624 409

www.environment-agency.gov.uk
www.environment-agency.wales.gov.uk

ENVIRONMENT AGENCY REGIONAL OFFICES

ANGLIAN

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR
Tel: 01733 371 811
Fax: 01733 231 840

MIDLANDS

Sapphire East
550 Streetsbrook Road
Solihull B91 1QT
Tel: 0121 711 2324
Fax: 0121 711 5824

NORTH EAST

Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: 0113 244 0191
Fax: 0113 246 1889

NORTH WEST

Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

SOUTHERN

Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: 01903 832 000
Fax: 01903 821 832

SOUTH WEST

Manley House
Kestrel Way
Exeter EX2 7LQ
Tel: 01392 444 000
Fax: 01392 444 238

THAMES

Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tel: 0118 953 5000
Fax: 0118 950 0388

WALES

29 Newport Road
Cardiff CF24 0TP
Tel: 029 2077 0088
Fax: 029 2079 8555



ENVIRONMENT AGENCY
GENERAL ENQUIRY LINE

0845 933 3111

ENVIRONMENT AGENCY
FLOODLINE

0845 988 1188

ENVIRONMENT AGENCY
EMERGENCY HOTLINE

0800 80 70 60



ENVIRONMENT
AGENCY