

NATIONAL RIVERS AUTHORITY  
SAFETY GUIDELINES  
FOR WATER QUALITY FIELDWORK

All Water Quality Staff must read this document and verify this action.

This document will be revised as necessary.

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1 **INTRODUCTION**

1.1 Field Staff are often called upon to operate alone, in isolated places and sometimes in situations which are potentially dangerous. Whilst in the field, communication with base is limited. For these reasons, safeguarding the health and safety of the Field Worker requires special consideration.

1.2 Water Quality field work is distinguished by a variety of tasks that personnel may be called upon to perform and the variety of locations involved. It is therefore difficult to set down guidelines for safe practice that covers all eventualities. Nor is it possible for a Supervisor, issuing instructions to a subordinate to foresee all possible hazards.

If at any time, members of staff are confronted by a situation which they consider dangerous or in which they feel unsafe they must cease the activity immediately and seek direction from their supervisor. If a superior cannot be contacted to give guidance the task should be postponed.

1.3 Wherever possible specific instructions and guidelines for safe working have been prepared and are included in this document and these must be adhered to by all staff.

1.4 A copy of the NRA Health and Safety manual should be available in each area office for reference.

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**GENERAL GUIDELINES FOR FIELD WORK**

**The Working Environment**

**Hazards of the Working Environment**

There are a wide variety of hazards in the working environment. Some are of a very general nature eg, severe weather and others are specific to particular locations eg, farm machinery. The field worker must make an assessment of the risks present at the workplace and take appropriate precautions before proceeding with the task.

**N.B.**

- **ALWAYS WEAR FOOTWEAR AND CLOTHING SUITED TO THE TASK AND TERRAIN**
- **ALWAYS ADHERE TO THE REGIONAL LONE WORKER PROCEDURES**

2.1

**General Physical Hazards**

2.1.1

**Steep Drops**

Staff should keep away from unfenced steep or vertical drops eg, cliffs, quarry faces, pits etc, particularly those of more than 2.0m, and the edges of unshored excavations which may be unstable. Care should be taken when climbing up or down steep river banks to access, inspect or sample the water and a life jacket should always be worn if the water is knee deep or greater. This is particularly the case in wet or freezing weather. Where possible, choose a route down the bank which offers good footing and even handholds if appropriate. **BEAR IN MIND ANY EQUIPMENT THAT HAS TO BE CARRIED.**

2.1.2

**River Banks**

Many river banks present a risk of falling from slippery/difficult conditions underfoot, tripping hazards such as tree roots or other vegetation and unstable ground particularly at the waters edge where the bank may be undercut by natural erosion. Where there is a risk of falling into water greater than knee deep, a crewsaver lifejacket should be worn. Where there is a real risk of slipping over and hitting ones head on rocks eg, whilst accessing a steep, rocky river basin to undertake wading, a protective helmet must be worn.

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### 2.1.3 Access Obstacles

Gates, fences (particularly barbed wire ones) and walls should not be climbed over unless this is unavoidable. Special care should be taken where barbed wire is involved. Where necessary to negotiate an obstacle of this sort care should be taken and staff should step not jump down off them. Any sites where the access to routine work necessitates doing this should be reported to the appropriate supervisor or manager and subsequently an alternative route or site found where possible.

### 2.1.4 Overhead Hazards

Staff should look out for overhead hazards. Where there is a significant risk of objects falling from above a hard hat should be worn eg, working below cliffs, on construction sites etc. Care should be taken when using long items of equipment such as sampling poles or gauging rods not to put them close to or touch high voltage electric cables.

### 2.1.5 Structures

Staff should not go on or use any structure that they have reason to believe is unsafe.

### 2.1.6 Traps

Staff should be particularly careful not to get into places that they subsequently cannot get out of. Examples of such traps are: marshes and bogs, deep mud (eg, on estuarine river banks at low tide), slurry tanks, quicksand (both coastal and in quarry settlement pits), steep sided pits and shafts or adits.

## 2.2 General Water Hazards

The two main hazards associated with working in or adjacent to water are falling in and drowning or falling in and suffering from hypothermia.

### 2.2.1 Protection Against Drowning

The risk of drowning is hugely reduced by wearing a lifejacket. Staff should wear a lifejacket when working at the waters edge or wading if the water is above knee deep. The Authority's approved lifejacket for general purpose use is the crewsaver crewfit.

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**N.B.WHEN RIVERS ARE IN SPATE STAFF MUST ALWAYS WEAR A LIFEJACKET WHEN CLOSE TO THE RIVER OR ON THE BANK. ENTERING THE WATER IN SUCH CONDITIONS IS STRICTLY FORBIDDEN.**

A lifejacket must be worn when working close to deep lagoons, lakes, reservoirs or other deep water.

If a member of staff does fall fully into the water, the job should be abandoned and the employee should return to base after allowing sufficient time to recover from the cold/shock. A lone worker should call in for assistance if badly shaken up following a fall.

2.2.2

**Wading**

A change of clothing is strongly recommended to be carried in the employees vehicle if falling into water is at all likely.

A member of staff undertaking a wading activity is most at risk of falling into water when getting in and out of the river. Time should be taken to select the safest place of access and egress and it should be negotiated carefully. If possible both hands should be kept free of equipment when climbing up/down steep banks and equipment picked up off the bank.

Wading should not be attempted when water over knee deep is turbid and the river bed is known to be very uneven/rocky or its condition is not known to the wader. The wader should utilise a wading staff to assess the depth of the water and any sediment on the river bed. Wading should not be attempted where there is a risk of getting stuck in deep sediment or mud.

Staff who are wading should look out for waterborne debris, and when working close to road bridges should wear a protective helmet as it has been known for rubbish to be thrown off them.

The use of a rope and harness should be considered at sites which are unfamiliar. The use of such equipment should be restricted to suitably trained employees.

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2.2.3

**Water Traps**

As with physical hazards there are a number of traps that personnel working in or close to water should be aware of. These include: Coastal waters (Risk of getting cut off by the tide if working below high tide level), estuarine mud, tidal currents (risk of getting swept out to sea), eddies, undertows and weir stoppers.

When these risks are high lone working should not be undertaken.

2.3

General Environmental Hazards

**Work In Darkness and in Severe Weather**

Staff should take due account of the present and forecasted weather conditions, firstly before starting out from their base and secondly on arrival at their place of work to determine whether it is safe to proceed. Adverse weather conditions such as snow, fog and very heavy rain may make driving very hazardous. Very cold and wet weather may present a risk of hypothermia and high winds will exacerbate this and may increase the risk of falling.

Sometimes fieldwork in darkness or in adverse weather conditions is unavoidable. At such times common sense must prevail and no task should ever be started or continued when it becomes evident that conditions of unreasonable hazard exist. Therefore staff must periodically review the risks presented by the weather and light conditions and act accordingly. The following specific safeguards should be applied as circumstances dictate:-

- a) all persons engaging in field work must carry a powerful (and serviceable) hand torch and spare batteries in their vehicles at all times;
- b) all persons must ensure that they are appropriately clothed and shod for the weather and site conditions prevailing or anticipated;
- c) wherever possible, staff should avoid working alone during the hours of darkness, however, where this is unavoidable they should keep in contact with the Communications Room and ensure that they report in both when the work is begun and then completed. The time period should be kept to a minimum and will usually result from completing a task begun in daylight.
- d) during electrical storms all persons, whether continuing to work or taking shelter, must take care not to put themselves at undue risk of lightning strike.

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- e) no person shall work alone in the field during daylight hours in situations where normally slight hazards are significantly increased by weather conditions, other natural phenomenon, or where an unusual hazard eg, unsecured mine shafts, is known or suspected.
- f) in very hot and sunny weather, personnel should take appropriate precautions to protect themselves from sunburn, sunstroke and hyperthermia. Personnel must ensure that they drink sufficient fluids to avoid dehydration.

2.4

### Dangerous Atmosphere

The atmosphere in a sewer or culvert can become potentially dangerous through a deficiency of oxygen or due to the presence of components which are toxic or flammable. The conditions may result from the decomposition or deposited organic solids or a variety of less predictable occurrences such as the accidental discharge of petrol or the discharge of certain trade effluents, some of which may be individually harmless but dangerous when mixed. It should be noted that the gases which may be present in deposited solids are often liberated when these solids are disturbed. Dangerous atmospheres may arise at any time and at any place on a sewerage or drainage system, whether large or small and quite irrespective of the water or effluent which it normally contains.

2.5

### Oxygen Deficiency

In sumps or other confined spaces where solids can lie stagnant and ventilation is poor the percentage of atmospheric oxygen can be seriously reduced due to the absorption of oxygen by sewage or other organic sludges, or through replacement of normal air by gases such as carbon dioxide and methane. When exposed suddenly to a change of atmosphere, even a slight deficiency of oxygen impairs the coordinating capacity of the nervous system so that both thought and mobility are impaired, therefore, never enter a confined space without following the correct procedure. Also, do not risk your own life by entering a confined space to rescue someone else who may be in distress, if possible, summon help immediately or employ ropes or other suitable rescue aids so that remote assistance can be given.



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### 2.6 General Health Hazards

#### 2.6.1 **Protection of Eyes**

Staff should wear suitable eye protection (safety glasses or goggles to BS 2092 are readily available) wherever there is a risk of eye injury or where there is a mandatory/legal requirement.

NOTE:- Safety glasses do not offer protection against liquid splashes. Goggles or a full face visor should be worn when this hazard is present. (Refer to the Chemical emergency kits available in each area).

#### 2.6.2 **Dust and Noise**

Dust and noise may occasionally present a risk and staff should use appropriate personal protective equipment such as masks and ear plugs in such conditions.

#### 2.6.3 **Carriage of Equipment**

Field work often requires the transportation of heavy or cumbersome equipment to remote locations. This may require manhandling the equipment. The following general precautions should be observed:-

- a) plan ahead, reconnoitre the route to be taken and ensure that any assistance required is on hand.
- b) only attempt to carry equipment which can be managed without difficulty, bearing in mind the size, weight and shape of the load, the distance involved and the nature of any obstacles.
- c) observe proper procedure for lifting and carrying heavy or awkward loads in accordance with the advice contained in the booklet "Manual Lifting and Handling of Loads" (a copy should be held in the area office).
- d) when appropriate, suitable tools or equipment should be employed to assist with lifting operations (eg, long handled manhole cover lifting keys).
- e) wear gloves and safety footwear to protect your hands and feet from the hazards of handling rough/sharp or heavy loads as appropriate.

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2.6.4

**Chemicals**

Staff must handle chemicals in accordance with the COSHH Regulations, following instructions on packaging and labels and using the personal protective equipment prescribed in their departmental procedures.

**N.B.**

**DO NOT TOUCH OR HANDLE ANY UNKNOWN SUBSTANCE OR UNLABELLED PACKAGE WHICH YOU DISCOVER IN THE FIELD.**

Withdraw and seek further guidance from your line manager or another appropriate senior officer.

**SAMPLES OF POLLUTANTS REMOVED FROM WATERWAYS SHOULD BE HANDLED WITH EXTREME CARE AS THEY MAY BE TOXIC OR CORROSIVE.**

**ALWAYS TRY AND ASCERTAIN THE NATURE OF ANY CHEMICAL SPILLAGE SO THAT APPROPRIATE PRECAUTIONS CAN BE TAKEN WHEN DEALING WITH IT.**

Staff should keep clear of crop spraying activities especially if they are down wind and should avoid contact with any other agricultural chemicals eg, dips.

2.6.5

**Bacteria**

Sewage, sewage works effluent (however well purified) groundwaters and many of our rivers and streams contain pathogenic bacteria. When working in contact with these waters personal hygiene is very important. Always wear protective clothing and before eating and after finishing work wash your hands and forearms thoroughly with soap and water. More detailed instructions are set out in the White Card (PRECAUTIONS AGAINST LEPTOSPIRAL JAUNDICE) which should be carried at all times. See detail included in Appendix 2.

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2.7

Work at Remote Locations eg, open countryside, river banks, farms, derelict sites

Field staff are often called upon to work alone, in remote locations and outside normal working hours. They do not always start and/or finish work at a recognised base. There is a risk that even a minor accident or incapacity may be serious if loss of mobility prevents aid being summoned. To counter this risk:-

- a) footwear and clothing must always be suited to both task and terrain.
- b) field staff must ensure that the locations at which they are working are known by their supervisor and that their failure to return to base or home will be noticed. See Lone Worker Procedures (Section 12).
- c) every member of staff totally or substantially engaged in carrying out, supervising or directing field work must carry a basic First Aid kit in their vehicle.
- d) every member of staff must carry a working radio pager in order that they may be contacted. They must also have ready access to a cellphone telephone in order to contact others. Where appropriate, carry the cellphone telephone during site visits.
- e) a survival kit should be carried when going on foot onto very remote sites.

2.8

**Hazards Specific to Particular Sites/Locations**

During the normal course of their duties, field staff may be required to visit places where, if caution is not exercised, there may be an element of danger: derelict factory sites, mines, quarries are examples. General guidance is given in the following section. Detailed procedures for entering certain sites is included in Appendix 1.

2.8.1

**Manned Sites and Premises**

Report presence and adhere to instructions given.

Sign visitors book where available.

Familiarise yourself with any site emergency procedures, locations of emergency escape routes and the position of emergency equipment such as fire extinguishers.

Always carry your NRA identity card and produce it on requests.

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- c) always use gates or stiles where they exist to negotiate fences or hedgerows;
- d) do not climb gates if they can be opened; where access is regular, arrange with the owner or tenant means of opening gates that are normally kept locked;
- e) only climb fences or scramble through gaps in hedges when access is imperative and no other means is available; take special care when carrying equipment; if regular access is required the supervisor must be informed so that a gate or stile may be installed;
- f) avoid areas that are known to have been recently sprayed or treated with a chemical substance; and take note of hazard warnings erected by farmers where spraying is in progress.
- g) do not enter areas known to be occupied by potentially dangerous animals;
- h) do not park vehicles, operate or store equipment where they may present a hazard to the landowner, tenant, site operator, or general public.

### 2.8.12 Public Places and Highway

In public places, there may be the general hazards of pedestrian or vehicular traffic or of working in a restricted or awkward space. There is an obligation to have regard for the health and safety of the public. The following points must be observed:-

Whenever possible, park vehicles off the highway; if parking on the highway is unavoidable (and legally permissible), switch on the vehicle's hazard warning lights and flashing beacon if appropriate.

Do not obstruct pedestrian thoroughfares; if significant or prolonged obstruction by personnel or equipment is unavoidable, warning signs must be displayed to alert pedestrians and/or traffic to the hazard. Deploy a warning triangle and cones if necessary to direct traffic around you.

When working on or very close to the public highway wear a high visibility waistcoat at all times. Position your vehicle with its flashing beacon deployed so that it warns oncoming traffic of your presence and offers you some protection.

During the hours of darkness ensure adequate illumination not only for the task in hand but also to advertise your presence and that of your vehicle and/or equipment to traffic and pedestrians in the vicinity.

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3.

**Vehicles**

Authority vehicles may only be driven by suitably authorised personnel and who are appropriately trained in the use of the vehicle.

When a vehicle is to be used on a public highway, the driver must hold a valid appropriate driving licence issued in accordance with the Road Traffic Acts.

The Driver's Handbook must be read and understood before taking an Authority owned vehicle on the road.

All instructions given in the Driver's Handbook must be followed.

All personnel involved in the towing of boat trailers must have received adequate training.

Drivers must report all defects to the appropriate party to arrange for them to be rectified.

Do not drive a defective vehicle.

Use the seat belts provided.

Do not carry unauthorised passengers.

Do not use the vehicle for unauthorised purposes.

Do not carry more passengers than the number of seats provided.

Do not overload the vehicle. (Use a public weighbridge to check if necessary.)

Report all accidents to supervisor and transport section and complete insurance claim form.

Private vehicles must have suitable insurance cover for use at work.

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4. Protective Clothing And Safety Equipment

Certain items of protective clothing and safety equipment are provided for use by field staff. These items must be worn or used as necessary. The clothing and equipment provided must be kept in good order and must be properly maintained at all times.

4.1 Work should always be planned in such a way that hazards are prevented as far as possible.

4.2 To guard against those hazards which unavoidably remain, certain items of protective clothing and safety equipment are provided for use by field staff. These items must be worn or used as necessary but particularly in the following circumstances:-

- 1 Where there is a danger of being hit by falling objects or debris.
- 2 In specifically marked safety zones.
- 3 Where heavy objects may fall on feet or sharp objects may be stepped on.
- 4 When working in wet ground conditions.
- 5 When working outside in bad weather.
- 6 When sharp, rough, dirty materials or hazardous substances are handled.
- 7 When flying particles or sparks may cause eye injuries.
- 8 When working on or near busy roads or railways.
- 9 When working by or over deep water.

4.3 Field staff must have the following items:

Hard hat

Goggles

Safety wellingtons

Safety boots or shoes

High Visibility Jacket

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Gloves (Standard Issue & Disposable type)

First Aid Kit (in vehicle type)

Safety torch (intrinsically safe if used in flammable atmospheres)

Crewsaver life jacket

Set of waterproofs (Jacket and Trousers)

1-piece chemical splash suit (where appropriate)

Amber beacon

Cellular phone

Walking stick

Personal alarm

Disposable overall

Waterless hand cleaner

Handwipes

- 4.4 Other safety equipment should be issued as appropriate eg. ear plugs or defenders for any staff who routinely enter noise protection areas.

Equipment should be inspected before use and routinely where appropriate eg. crewsaver life jackets. Formal routine inspections shall be formally recorded on the record sheet provided.

Equipment should be replaced immediately if defective or damaged.

- 4.5 Certain equipment should be periodically replaced to guarantee its fitness for purpose eg. hard hats. As part of its inspection ensure that the replacement date has not passed.

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4.6

Life Jackets

A life jacket should be worn if there is any expectancy that a particular task carries a risk of falling into deep or fast flowing water. The final discretion of use must rest with the field officer however, there are a number of situations when the life jacket should be worn, particularly when working alone:-

- 1 When working in rivers where the maximum depths exceeds knee height.
- 2 When working alongside rivers which are in spate or there is a danger of slipping in (eg. steep or slippery banks).
- 3 When working in boats.
- 4 When working in or near rivers or other bodies of water at night.
- 5 When working in other potentially dangerous locations such as deep tanks, or other deep water such as quarries or reservoirs.

**N.B.**

- **BE AWARE OF THE DANGERS OF HYPOTHERMIA.**
- **CHECK FIRING MECHANISM BEFORE USE EVERY TIME**



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Confined Spaces		Revision 3 Date Nov 1994

5.

CONFINED SPACES

Manholes, sewers, closed tanks, pump wells, steep-sides culverts, storm drains, pits, mine shafts or any other confined spaces should only be entered by trained personnel and in accordance with the Confined Spaces Procedures.

**Manholes**

**DO NOT ACCESS MANHOLES**

Where access to a manhole is required then obtain the cooperation of the sewerage undertaker or Local Authority sewer gang, or trained personnel, do not enter yourself.

Wear safety glasses or goggles when clearing stones, etc, from around covers using hand tools.

**LIFT COVER IN APPROVED MANNER**

Information Note on Manual Handling must be read by all personnel likely to handle heavy objects. (A copy should be held in area office).

No naked lights, matches or lighters shall be used within five metres of a manhole. Spark producing activities must be avoided ie. use of metal hammer to dislodge the cover. Approved Safety Torches must be used.

When lifting or replacing covers ensure that neither fingers or toes become trapped should the cover fall. Wear safety shoes or boots.

Use approved lifting irons for lifting covers.

Large covers must not be lifted without assistance unless appropriate manhole lifting equipment suitable for one person operation is used.

Place removed cover away from manhole in safe place.

Allow 5 minutes after lifting manhole for fumes to escape before sampling or inspecting.

When working on trade premises ensure that the company's requirements are complied with.

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An open manhole must not be left unattended unless a barrier of sufficient strength to prevent persons accidentally falling into it is provided.

If the site is left unattended manhole covers must be replaced.

**Flooding**

Whilst working in the vicinity of storm sewers or culverts be aware of sudden rises in water level. A remote storm may cause a very rapid rush of water; be prepared to evacuate the area immediately.

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Accidents & Sickness		Revision 3 Date Nov 1994

6.

**ACCIDENTS AND SICKNESS**

In the event of an accident or dangerous occurrence:-

Call for a First Aider, if appropriate, obtain treatment however small or insignificant the injury appears.

Notify your supervisor or manager.

Ensure accident is entered in the Accident Report Books.

In the event of sickness:-

Present "Leptospirosis" white card to doctor (see Appendix 2)

Notify supervisor at the earliest opportunity on first day of illness.

Forward Self Certification/Doctor's Note to supervisor as appropriate.

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Working in Boats		Revision 3 Date Nov 1994

7.

**WORKING IN BOATS**

Officers using boats must be accompanied by at least one other person and the person responsible for the exercise must be appropriately trained.

At least half of the crew of the boat and a minimum number of two persons must be proficient swimmers and experienced in boat handling and have undergone a boat handling course. Only those persons who are able to swim at least 50 metres in light clothing will be regarded as being proficient swimmers.

The boat being used must be in sound structural condition and be suited to the particular waters on which it is being used. The boat must be adequately equipped with safety lines, oars and a drift prevention anchor.

A basic tool-kit must be on board powered craft. This will include appropriate tools for engine adjustments as well as first aid kit, fire extinguisher (dry powder), knife, cell phone, marine VHF radio and flares - if boat is to be used on estuary or open sea.

The boat must not be overloaded or used in adverse weather conditions.

All the occupants of the boat must wear an approved personal life jacket. Chest waders must not be worn whilst in the boat.

**N.B.**

**See National Procedure for Boats and Crew**

**If wading from boats is intended then dry suits shall be worn.**

When boating during dusk or the hours of darkness appropriate warning lights must be shown.

At all times boat users must adhere to the Code of Conduct prepared by British Waterways for the guidance of pleasure craft users. The use of boats in navigable or other controlled water (harbours) must be in accordance with the Rules of the International Regulations for Preventing Collisions at Sea Act 1960 or any other rules or regulations which might be enforced in those particular waters.

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Accidents

In the event of the accidental immersion of one or more crew members every effort must be made by those remaining in the boat, bearing in mind their own safety, to effect a rescue. The following considerations should be taken into account:-

If the boat itself remains afloat, those in the water should attempt to reach it, but should not attempt to board unless it is unmanned.

If manned and reached successfully by those in the water, the remaining crew should tow the latter to the bankside by paddling. If the boat is motor powered the motor should not normally be used in such circumstances in order to avoid risk of injury by the propeller.

If the boat remains manned, but those in the water cannot reach it quickly the remaining crew should go after them, power may be used in such circumstances, but extreme care should be taken to guard against injury inflicted by the propeller.

If the boat is no longer manned, is afloat, but cannot be reboarded, those in the water must decide whether to continue to use it for support and wait for help to come or abandon it and attempt to swim or otherwise propel themselves to the nearest bank.

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8.

**SAMPLING**

8.1

**Access To Sampling Point**

Routine chemical and biological samples are normally taken from carefully selected sampling points. Other points may not be so satisfactory and, therefore, sampling officers must exercise due care and caution when sampling to prevent accidents. All new sampling points must be assessed before samples are taken. Ensure that the Area E.Q. Manager or appropriate Senior W.C.O. is informed of any unsatisfactory situations. Before attempting to obtain samples the officers must satisfy themselves that both access to and egress from the sampling point can be achieved with complete safety, bearing in mind the equipment which may be carried. Where sampling from exposed road bridges, or working in the vicinity of roads in general, reflective jackets must be worn.

N.B.

**THE REGIONAL PROCEDURES FOR REPORTING OF UNSATISFACTORY MONITORING SITES SHOULD BE UTILISED.**

8.2

**Biological Sampling**

This will usually involve entering the river to obtain samples.

If any of the following circumstances apply the officer should not enter the river unless secured with a harness or safety line and wearing an approved life jacket and then only if satisfied that it is safe to proceed.

Training should be provided to all employees using this type of equipment.

- (a) Rivers where access is by steeply graded banks the slope of which continues up to the edge of the river.
- (b) When the river is more than 2ft deep or when the bed of the river has an accumulation of soft (penetrable) mud.
- (c) The sampling point although shallow is just upstream of very deep water.
- (d) Where the river is so discoloured that any dangerous obstructions may be hidden from view.

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- (e) When undertaking bank sampling because the river is too deep to enter and the banks are particularly steep or slippery.

All officers must use the appropriate sampling equipment and personal protective clothing for the task.

N.B.

**NO ATTEMPT SHOULD BE MADE TO ENTER A RIVER WHICH IS IN SPATE. SEE SECTION 2.2.2 WADING.**

Any site considered to be unsafe or access is particularly difficult, do not enter but notify the Area E.Q. Manager.

8.3

Chemical Sampling

Always use appropriate sampling equipment and protective clothing, the latter should include gloves and safety footwear and if the situation dictates a safety helmet, eye protection and chemical resistant suit. Take heed of the procedures for working at remote areas (See Section 2.7 and 2.8) when visiting derelict sites, mines, quarries, etc or at manned establishments let the occupier know of your presence and abide by their instructions. Keep to proper roads and footpaths as far as possible.

8.4

Unfenced Areas

Do not sample lagoons, tanks, or open channels where there is no safety barrier if the samplers safety is compromised. Report an unsatisfactory situation to your supervisor for further action.

8.5

Sampling Point

Carefully select routine sampling point in conjunction with discharger.

Ensure that the sampling point is safe.

Ensure safe and free access to and egress from sampling point under all circumstances.

**NON-ROUTINE POINT - BE FULLY ALERT FOR HIDDEN DANGERS  
-DO NOT TAKE THE SAMPLE IF IT IS IMPOSSIBLE TO DO SO SAFELY!**

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8.6 Toxic and Hazardous Chemicals

Toxic and hazardous chemicals - take appropriate precautions. (See Sections 8.11 and 8.13 below.

N.B.

**EXERCISE EXTREME CAUTION WHEN SAMPLING UNKNOWN MATERIALS. DO NOT ATTEMPT TO IDENTIFY THE SUBSTANCE BY SNIFFING.**

Warn laboratory of a toxic or hazardous constituent by affixing a warning label.

8.7 Sample Containers

Glass bottles must be carried in suitable carriers: where possible always use the PET bottles.

Labelling - Use marker pens on site.

Do not lick labels.

8.8 Chemical Reagents

When using reagents on site, handle with caution and wear suitable protective clothing (eg. gloves). Observe the note, Control of Substances Hazardous to Health issued by the NRA (a copy is held in each area office). Many sample bottles contain corrosive/toxic reagents which if handled incorrectly could cause considerable harm. If sample bottles are stored in a vehicle overnight then care should be taken to ensure that access to the bottles is restricted.

8.9 Sampling during the Hours of Darkness

Situations quite safe during daylight hours may become hazardous during darkness. Routine night-time sampling should only be undertaken by arrangement with the supervisor. Routine sampling in darkness should be carried out at carefully chosen sampling points where access is easy and safe. Where necessary, appropriate lighting facilities should be provided. Arrange to report at appropriate intervals to the Control Room. Double manning should be considered when there is a requirement for sampling at night.



NATIONAL RIVERS AUTHORITY

Environmental Quality	Safety Guidelines	No. Sheet 25
Sampling		Revision 3 Date Nov 1994

8.10 Personal Hygiene

Sewage, sewage effluent and many rivers and streams will contain pathogenic bacteria. When sampling these waters and toxic or hazardous effluents personal hygiene is most important:-

Wear protective gloves.

Wash hands once job completed.

Do not eat or smoke until hands have been washed.

Obey instructions set out in the Weil's Disease card (Instructions to Persons Working in Contact With Rivers or other Water Sources) issued to all field staff.

8.11 Toxic and Hazardous gases, etc

When informed of or suspect the presence of toxic gases/fuming liquids/radio active substances/explosive vapours.

**DO NOT GO INTO IMMEDIATE AREA**

Keep up wind of hazard.

Switch off equipment likely to cause spark (including cellphone).

When attending any incident you must wear "Pollution Control" reflective jacket at all times over any other clothing including splash suits.

If first at the occurrence in a public area then contact Police and Fire Brigade who should then take control of the incident.

If first at the incident in private premises contact owner/management or consider contacting the emergency services who should then take control of the incident.

You must immediately report to the Fire or Police Officer in charge and obey their instructions.

You must wear splash suits if there is any risk of personal contamination, although you must take every step to avoid such a risk.

Use vehicle amber warning beacon at the scene of highway incidents.

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Environmental Quality	Safety Guidelines	No. Sheet 26
Sampling		Revision 3 Date Nov 1994

Persons suspected of being contaminated by radio activity must be subjected to a medical check. There must be as little physical contact with them or their clothing or vehicles as possible. The Police must be advised and consulted prior to transporting persons to hospital.

Local Management must ascertain available local hospitals with specialist facilities and ensure dissemination of the information.

8.12 Petrol In Sewers

The presence of petrol or petrol vapour in sewers poses major risks to everyone seeking to deal with the situation. Do not exacerbate the situation by attempting to vent the sewer by lifting manholes. Generally there should be a reliance on the Emergency Fire Services to provide fully equipped and trained personnel.

8.13 Highway Spillages - See Sections 8.6 and 8.11.

Approach source from upwind direction.

If first at the incident notify Police and Fire Brigade either direct or via the Control Room giving all details.

When attending any incident you must wear a reflective jacket at all times over any other clothing including splash suits.

You must immediately report to the Fire Brigade or Police Officer in charge and OBEY THEIR INSTRUCTIONS.

You must wear splash suits if there is any risk of personal contamination, although you must take every step to avoid such a risk.

Use vehicle amber warning beacon at the scene of highway incidents.

Note International Road Hazard Code. Before sampling seek information on the hazards involved.

The Chem-data system is held at Area Offices and the Control Room. Alternatively WRC at Stevenage will provide information from the toxicity data base, ETAS (01491 571531), in an emergency. The Regional Office, EQ will assist in identifying substances during normal working hours. Outside normal hours information of this sort may be obtained from the Fire Service or the Control Room.

## NATIONAL RIVERS AUTHORITY

Environmental Quality	Safety Guidelines	No. Sheet 27
Contractors		Revision 3 Date Nov 1994

9.

### Contractors

Pollution emergencies occur spontaneously at anytime of the day or night and more often than not at unexpected locations. It is not therefore, feasible to undertake preplanned risk assessments for all eventualities. The application of safe systems of work can, however, prevent or minimise a great many risks.

#### ● Shortlisting Of Contractors

Shortlisting of suitable contractors can be an effective method of incorporating health and safety procedures into contractors working practices. Copies of the contractors safe working practices can be requested and vetted by the Regional Safety Advisor. Factors which should be addressed in such a document include:-

- Awareness of the dangers of working in or adjacent to water.
- Basic boat handling skills
- Manual handling
- Contractable diseases
- Life Jacket Policy
- Third Party Liability
- Protective Clothing
- Electrical Safety
- COSHH
- Use of plant and equipment

#### ● Supervising Officer

The field officer dealing with the incident will have to assume responsibility for ensuring that basic health and safety procedures are adhered to.

- The requirements of the CDM Regulations 1994 must be fully met where appropriate.

Any contractor failing to abide by laid down procedures, should be advised of the discrepancy. Failure to comply should result in the

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Environmental Quality	Safety Guidelines	No. Sheet 28
Contractors		Revision 3 Date Nov 1994

Contractor being dismissed. The EQ Manager should be advised of the situation and should in turn address the issue through the Regional Safety Advisor.

- Site Security

Any site should be left in a safe condition at all times, and if appropriate, continually manned. Only authorised persons should be allowed on site.

- Accidents

All reportable accidents must be reported to the enforcing authority using the procedures laid down by the region.

NATIONAL RIVERS AUTHORITY

Environmental Quality	Safety Guidelines	No. Sheet 29
Electricity		Revision 3 Date Nov 1994

10 **ELECTRICITY**

This can cause physical injury and may be fatal.

The NRA Code of Practice for Electrical Safety must be complied with at all times. (See Appendix 3).

**Electrical Safety Rules**

Only employees who are specifically authorised shall carry out electrical work.

Purchases of electrical equipment for connection to the Employer's electrical systems must be approved by an appropriate authorised person before any order is placed.

Portable power tools and equipment (other than office or domestic equipment) shall be inspected and tested once every 6 months (or more frequently if directed by the Regional Electrical Adviser) by an authorised person, and a record shall be maintained.

"Portable" office and domestic electrical equipment shall be tested and examined once every 12 months (or more frequently if directed by the Regional Electrical Adviser) by an authorised person, and a record shall be maintained.

Employees privately owned electrical equipment shall not be connected to the Employer's system.

All portable tools shall be operated at a voltage of 110 volts AC or less, supplied via an isolation transformer (centre tapped to earth). All hand lamps shall be operated on a maximum of 25 volts. The use of hand lamps operated at mains voltage is forbidden.

All employees shall watch out for any patent defects in electrical equipment, and report such to their supervisors. Equipment known to be defective must not be used and must be kept in a secure place or immobilised pending repair or replacement. No item of electrical equipment shall be used unless it is within its maintenance period.

No equipment shall be used unless it has been inspected by an authorised person, and it is clearly identified as being an item which is within its maintenance period. All extension leads shall be adequately mechanically protected for the environments, in which they are used.

**IF IN DOUBT ASK YOUR SUPERVISOR**

Environmental Quality	Safety Guidelines	No. Sheet 30
Electricity		Revision 3 Date Nov 1994

## BATTERY CHARGING

Lead acid batteries should only be charged in approved places and in accordance with manufacturers procedures. These areas must be designated as No Smoking Areas and care should be taken not to generate sparks or have naked lights. There should be suitable ventilation provision to remove evolved hydrogen from the area.

Goggles should be worn when carrying out battery maintenance and water filled eye wash bottles must be readily available in the charging room.

If splashed with battery acid, the affected area should be washed immediately with water, any contaminated clothing should be removed and medical attention should be sought.

Ordinary sealed rechargeable batteries should be charged in accordance with manufacturers procedures as they can explode if improperly treated.

Batteries must be recycled on disposal.

## ELECTRIC SHOCK

If a person suffers an electric shock then:-

If possible switch off the power supply. If this cannot be done then release the victim from contact with the conductor by using dry gloves, dry blankets, dry clothing, dry rubber sheet, dry wood etc.

Call for First Aid or someone to summon the ambulance service.

If the person is unconscious and breathing put them in the recovery position.

If they are not breathing commence artificial respiration or if they are not breathing and have no pulse commence cardio-pulmonary resuscitation (C.P.R) and continue until the casualty 'recovers' or medical assistance arrives.

### High Voltage Electric Shock

Although extremely unlikely there is a small chance that field work may be carried out near broken power cables. Electricity can "jump" up to 18 metres from the cable and NO attempt should be made to rescue the person effected until the power is switched off.

NATIONAL RIVERS AUTHORITY

Environmental Quality	Safety Guidelines	No. Sheet 31
Safety in the Office		Revision 3 Date Nov 1994

11. **SAFETY IN THE OFFICE**

Although an office is generally regarded as a safe place of work, serious accidents and many minor accidents do occur. These are often due to carelessness, frivolity, haste, bad maintenance and/or interference of equipment, poor office layout and incorrect working procedures.

Whilst it is impossible to specify precautions to be taken in every case, staff must comply with the following:-

Sample bottles should not be brought into office areas.

Staff should familiarise themselves with emergency escape routes and the locations of fire extinguishers and fire alarms.

Keep all stairs and passageways free from obstruction.

Do not obstruct access to fire fighting equipment and escape routes.

Keep articles of clothing and any other combustible materials away from heaters. Dry clothes using the drying facilities provided. Do not dry wet clothes on space heaters as the build-up of heat may cause a fire.

Seek instruction in the correct operation of all office equipment particularly with special reference to electrical machinery and mechanical paper cutting machinery. Report any unsatisfactory situations to your Supervisor.

Do not attempt unauthorised maintenance.

Ensure that telephone and power cables to office equipment do not create trip hazards.

Ensure that all electrical appliances are switched off before finally leaving the office unless instructed otherwise.

Do not lift and carry loads beyond your physical capabilities and make sure that you can see over the load. Use a trolley or other lifting appliance and get assistance from other personnel when appropriate.

Use a suitable step-ladder or step-stool when it is necessary to climb.

Use only suitable knives and cutters for paper, board, string and sharpening pencils.

Close filing cabinet drawers after use, and have only one drawer open at a time.

NATIONAL RIVERS AUTHORITY

Environmental Quality	Safety Guidelines	No. Sheet 32
Safety in the Office		Revision 3 Date Nov 1994

Queries regarding office safety should be directed towards the Administration Department

11.1

Bottle Stores

Bottle stores should be kept clean and tidy at all times. Bottles should be stored on proper shelving to prevent toppling over. Heavy items should be stored on the floor or no higher than waist height.

Chemicals and reagents should be clearly labelled and stored in a leak proof non-corrosive tray. Any chemicals which require refrigeration should be stored on a separate shelf in a leak proof tray.

Any potentially hazardous or corrosive chemicals should be marked accordingly.

N.B.

**ANY CHEMICALS NO LONGER REQUIRED SHOULD BE DISPOSED OF IMMEDIATELY IN A PROPER FASHION.**



NATIONAL RIVERS AUTHORITY

Environmental Quality	Safety Guidelines	No. Sheet 33
Lone Working		Revision 3 Date Nov 1994

12.

**LONE WORKING**

The risks of the outdoor working environment are often greater to lone workers than staff working in pairs or groups. Lone workers have no help immediately to hand should they have an accident or simply require assistance with a job. Their safety depends on their own awareness and knowledge of hazards and associated assessment of risks; awareness of their own level of competence and physical capabilities and finally their own diligence in following safe systems of work.

Hazards will be reduced at routinely visited sites by undertaking risk assessments. Action should be taken to find alternative sampling sites or install appropriate access facilities.

**N.B. NO SAMPLE IS WORTH RISKING YOUR WELFARE OR YOUR LIFE.**

Supervisors must assess the fitness, competence and experience of their staff before giving them lone working tasks. New or inexperienced staff should work accompanied initially to gain the necessary knowledge prior to working unsupervised.

Since it is clearly impossible for a lone worker's supervisor to anticipate every condition or situation that may arise in the field the final onus for assessing the workplace risks rests with the lone worker.

**LONE WORKERS MUST NOT PROCEED WITH TASKS THAT THEY FEEL HAVE EXCESSIVE OR UNFAMILIAR RISKS WITHOUT FIRST CONSULTING THEIR SUPERVISOR OR AN EXPERIENCED COLLEAGUE.**

**VARIATIONS FROM STANDARD PRACTICE MUST ALWAYS BE SANCTIONED BY THE LONE WORKER'S SUPERVISOR OR MANAGER.**

Lone workers are inherently at greater risk of being subjected to physical attack or abuse. Lone work should not be carried out in areas where the risk of abuse is high eg. certain inner city areas. Personal attack alarms should be carried if staff feel that these would provide added security eg. for lone work in darkness in remote locations.

Standby personnel should attempt to have the authenticity of pollution incident reports checked before sending an officer to investigate.

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Environmental Quality	Safety Guidelines	No. Sheet 34
Lone Working		Revision 3 Date Nov 1994

LONE WORKING IS NOT PERMITTED WHEN:

Working in water greater than knee deep during darkness/reduced visibility.

Working during darkness where there is a significant risk of falling into deep or fast flowing water or falling down more than 2m vertically. (eg on cliff tops, in quarries, on steep sided river banks etc)

Working in fast flowing water above knee height.

Working in water which is too turbid for the bed to be visible and coupled with the water's depth and 'river' bed condition (eg silty, rocky, slippery, debris strewn etc), this makes it difficult to establish that it is safe to wade in.

Carrying out estuary patrols away from the immediate vicinity of the high water mark.

Carrying out an operation that requires the wearing of a safety harness and manned lifeline.

Working in boats.

Entering confined spaces.

Atmospheres which are toxic, flammable or deficient in oxygen are present.

Working in traps.

Working in excavations.

Working in places which have a history of physical assault on people eg certain inner city areas.

A potentially confrontational situation is anticipated.

Entering premises in response to an intruder alarm when there is reason to believe an intruder may still be present.

Carrying out any task where the relevant Safe System of Work (eg Departmental Procedure) requires more than one man and a change in circumstances eg sickness, results in a lone worker situation.

NATIONAL RIVERS AUTHORITY

Environmental Quality	Safety Guidelines	No. Sheet 35
Lone Working		Revision 3 Date Nov 1994

The following 7 points summarise how to make lone working safer:-

1) **GOOD COMMUNICATIONS**

Ensure that your base knows where you are and roughly what you are doing.

2) **ASSESS THE RISKS ON ARRIVAL AT SITE**

Take note of any changes to the usual conditions and act accordingly.

3) **FOLLOW SAFE SYSTEMS OF WORK AND TAKE THE APPROPRIATE SAFETY PRECAUTIONS**

4) **REVIEW THE RISKS**

Whilst doing a job review the risks from time to time noting especially any new or changing hazards.

5) **WHEN IN DOUBT - STOP!**

If you are uncertain what to do or feel threatened in an unfamiliar or "dodgy" situation, consult your supervisor or seek assistance or advice from an experienced colleague.

6) **KNOW YOUR LIMITATIONS**

Do not attempt jobs that need 2 or more people to do safely - GET HELP!

7) **REPORT PROBLEMS**

Report any problems encountered or significant changes to site risks so that others can benefit from your knowledge.

Environmental Quality	Safety Guidelines	No. Sheet 36
Hostile Situations		Revision 3 Date Nov 1994

## HOSTILE SITUATIONS

Staff called upon to enforce legislation, regulations or undertake works on private land may encounter a confrontational situation. Clearly every situation will be different and it is not feasible to lay down strict rules on how to deal with aggressive behaviour, however, some basic guidelines are given below.

Each department will have its own regulations and individual members of staff should be familiar with the relevant powers, for example rights of entry, powers to remove samples, etc.

### Dealing with situations

If there is a history of problems at a particular location or if the incident is of a sensitive nature, do not go alone. A second person will act as a witness and lend support to the proceedings. If the visit can be preplanned then appropriate arrangements should be made; if not then make use of the telephone to summon assistance. In a difficult situation, gathering of evidence may be achieved without having to enter the site, eg, photographs from a boundary fence may be sufficient.

It is appropriate to prewarn other departments of the Authority who may encounter an obstructive individual. The use of the Health and Safety reports should be used to record problem cases. The A.M.T meetings can be used to disseminate information of on-going problems.

De-escalation of potentially violent situations is the most effective response. This can often be achieved if you remain calm, avoid any aggressive words or gestures (this may include moving towards the person) and try not to give the impression that you are "ready for a fight if they are".

Try to explain why you are there, the nature of the problem or works to be undertaken and the extent of the powers of the Authority. Particular care should be taken if alcohol can be detected or gestures indicate that the person is drunk. Regrettably many people may use foul or abusive language against officers. However unpleasant this may be, there is nothing to be gained by joining in. The best tactic is to soak up the abuse and not react at all.

Concentrating on the issues involved will assist in depersonalising the conflict. If the situation does not improve then leave the area (leaving behind any equipment if necessary, this is replaceable) and inform your supervisor of the situation.

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Environmental Quality	Safety Guidelines	No. Sheet 37
Hostile Situations		Revision 3 Date Nov 1994

A cooling off period can often improve matters and a telephone call later in the day to arrange an appointment may be successful. If admission to the land is not required immediately a Solicitor's letter may be sent to the owner or occupier, stressing the NRA's reason to be on site, and its powers. This may resolve any confusion regarding the Authority's legal rights. In the event that all negotiations fail then the only way forward is to resort to the courts and apply for a warrant authorising that person to enter the land. The Regional Solicitor will apply to the courts for a warrant. (Notes on obtaining a warrant are given below). When a warrant has been obtained a return visit to the premises in question should be made without undue delay. The person must be accompanied by a colleague, both to act as a witness but also in an attempt to dissuade the occupier from embarking on physical obstruction or violence. Where the latter appears likely despite the possession of a warrant then arrangements can be made to obtain the assistance of the police.

It goes without saying that under no circumstances should the Authority's staff become involved in physical violence, except for self preservation.

The Authority will take further action to provide protection for staff via the prosecution of offenders as required. If you feel that you have really been threatened with physical violence or have been attacked inform the police immediately as well as your supervisor.

Procedure for Obtaining Warrant

The circumstances in which a Court Warrant is justified will be both serious and urgent. The Officer who is refused entry must immediately contact their EQ Manager with the relevant facts of the matter. Speed is of importance in cases of this sort. The EQ Manager should advise the Regional Duty Manager of the situation as soon as practicable. A written statement indicating the reason for requiring entry and the circumstances in which entry has been refused should be prepared and submitted direct to the Regional Solicitor with a request for a Justice of the Peace Warrant. Attendance of the Officer who has been refused entry will be required in Court. A photocopy of a six inch Ordnance Survey map showing the land and stream in question should be prepared.

When a Warrant has been obtained a return visit to the premises in question must be made without delay, but in this case the Officer must be accompanied by a colleague (a) to act as an additional witness and (b) in an attempt to dissuade the occupier of the land from embarking on physical obstruction or violence. Where physical obstruction or violence appears likely despite the possession of a Justice of the Peace Warrant the Officers concerned should make arrangements to obtain the assistance of the Police.

APPENDIX 1  
GENERAL SAFETY PROCEDURES FOR  
WORKING ON SPECIFIC SITES

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1. SEWAGE TREATMENT/WATER SUPPLY INSTALLATIONS

Hazards:       Contact with moving machinery

                  Exposure to harmful substances

                  Being struck by a moving vehicle

                  Slips and trips

                  Falls from height

Precautions to be taken

When visiting or working on any premises you must report to the site manager or his representative, both on arrival and when leaving the premises. Entry to and exit from premises or sites must be via authorised routes. Do not attempt to climb security fences.

When visiting unattended sites you must have a workable system of reporting to your base at regular intervals. Complete the site log book if there is one.

Ensure that you comply with established safety instructions/rules and obey any warning signs.

Park your vehicle in a safe place.

Use the designated walkways/paths and do not take short cuts.

Be alert at all times to vehicle and plant movement.

Keep clear of any machinery. It may operate automatically and could commence at irregular intervals.

The existence of airborne contaminants from activated sludge processes or high pressure water cleaning operations may present a risk to health. Avoid inhalation or use respiratory protective equipment. Avoid ingestion through the mouth (with food or via smoking).

Wear gloves when taking samples. If facilities exist on site for hand washing, and these are maintained in a suitably clean condition, you should take full advantage of them as this will afford additional protection against the bacteriological hazards associated with sewage.



2. INSPECTION AND SAMPLING OF INDUSTRIAL SITES

Hazards:       Contact with moving machinery  
                  Injury from materials ejected from moving machinery  
                  Injury from high pressure leaks of gases and liquids  
                  Exposure to harmful substances  
                  Noise  
                  Tripping and falling  
                  Being struck by a moving vehicle

Precautions to be taken

When visiting or working on any premises you must report to the site manager or his representative, both on arrival and when leaving the premises. Entry to and exit from premises or sites must be via authorised routes. Do not attempt to climb security fences.

Ensure that you comply with established safety instructions/rules and obey any warning signs. Extreme vigilance is required even when you are familiar with the site.

Park your vehicle in a safe place.

Due to the widely varying nature of industrial hazards it is highly desirable that you are guided around the premises by a responsible member of the company, particularly if the work to be done is in close proximity to plant or machinery.

Trade compounds may contain substances which are highly toxic, corrosive or possibly carcinogenic. Seek advice on the nature of the hazards at the particular premises being visited and wear the appropriate protective equipment. Safety footwear should be worn at all industrial premises.

If clothing becomes contaminated it should be removed and the skin flushed with plenty of water.

Establish safe sample points. Report any defects to your Manager who will arrange for the company to make the necessary improvements.

Trade effluent treatment plants may incorporate automatic machinery. Keep clear as machinery may operate at irregular intervals.

3. INSPECTION AND SAMPLING OF FARM PREMISES

Hazards:       Contact with moving machinery  
                  Being struck by a moving vehicle  
                  Injury from farm animals  
                  Infectious diseases  
                  Being struck by falling objects/material  
                  Slippery underfoot conditions  
                  Falling down uncovered/unguarded manholes, lagoons, embankments,  
                  etc  
                  Poisoning by pesticides  
                  Noise  
                  Unstable gates and poor fencing  
                  Barbed wire

Precautions to be taken

Inform the occupier of your presence and try to ensure that he or his representative accompanies you on your visit. Present your identity card on request

Park your vehicles in a safe place. Delay leaving your vehicle until you can determine the presence of any dangerous farm dogs.

Obey instructions and signs. Even when accompanied, continuously assess the situation for risks to your safety.

Keep clear of all farm machinery.

Use established access routes but be aware that vehicle routes will not be separated from pedestrian areas and speed limits are unlikely to exist. Never walk unaccompanied across flooded farm yard areas because often manholes or tanks may be an unseen hazard.

Bulls are perhaps the best known animal hazard but nasty injuries can be inflicted by pigs, cows, horses, geese, etc. Avoid walking through any group of animals. Check open land for bulls or horses and avoid if present. A walking stick can offer useful protection against unfriendly or over-friendly animals.

Keep clear of stacks of materials. The use of containment walls or buildings is no guarantee of stability as they could be in a virtual state of collapse.

Avoid undue haste as ground conditions may be slippery. A special risk is going into a dim farm building on a bright sunny day.

Do not enter chemical storage areas until they have been thoroughly ventilated.

Be alert to crop spraying activities and avoid any visible spray drift. If sprayed seek medical advice and inform the Health and Safety Executive immediately.

Do not smoke in the vicinity of slurry storage systems or other fire hazards such as hay, straw or corn.

Leave gates open or closed as they are found.

Avoid breaking down hedges and fences and standing on barbed wire.

Avoid walking through standing crops or hay.

Do not leave rubbish, litter or cause pollution

Avoid unnecessary disturbance of livestock or game.

#### Animal Diseases

There are a number of animal and poultry diseases which are highly infectious either to other animals or to man. These diseases can be transmitted on boots or clothing.

Officers should, whenever possible, avoid contact with farm animals (including poultry) and must always ensure that they keep to the farmer's own rules regarding animal disease precautions.

Proper hygiene is essential as most animals can spread diseases to humans.

Almost anyone who works where contact with animals is possible is at risk, but it does depend on the frequency and the susceptibility of the individual. Always wash your hands and forearms before eating, taking drink or smoking - even if gloves have been worn. Keep any wound covered until this type of work is complete or the wound is healed up.

Certain diseases such as foot-and-mouth, fowl pest, swine fever and swine vesicular disease are notifiable and highly infectious. The advice of the Ministry of Agriculture's Divisional Veterinary Officer or the officer in charge of the nearest disease control centre must be obtained before entering any area infected with such diseases.

### Fish Farms

To avoid any possibility of claims for introducing infection, sterilise sampling equipment and, if appropriate, footwear before sampling at fish farms.

## INSPECTION AND SAMPLING OF QUARRIES

Hazards:

- Falls of ground or materials
- Slips, trips and falls
- Contact with moving machinery
- Explosion/flying debris
- Being struck by moving plant or vehicle
- Lagoons and pits
- Tailing from mineral washing

### Precautions to be taken

When visiting or working on any premises you must report to the site manager or his representative, both on arrival and when leaving the premises. Entry to and exit from premises or sites must be via authorised routes. Do not attempt to climb security fences.

Ensure that you comply with established safety instructions/rules and obey any warning signs.

Deploy the flashing warning beacon on your vehicle and park it in a safe place.

Due to the rapidly changing nature of the hazards present on a Quarry site, it is highly desirable that you are guided by the site manager or his representative.

Wear safety footwear, safety helmet and high visibility clothing.

Used authorised routes only.

Keep clear of quarry face. Bad weather can cause sudden changes in the conditions resulting in falls of material.

Keep clear of conveyor belts, chutes and other loading operations.

Never loiter close to vehicle and plant.

Never ride in unauthorised positions on vehicles and plant.

Watch out for warning signals relating to blasting operations and take cover when directed.

Beware of "dry" ditches as they may fill unexpectedly. Likewise avoid 'puddles' as they may be unexpectedly deep.

Beware of soft ground - always follow the person who knows the site and test ground ahead with stick if in any doubt. **NEVER JUMP ACROSS OBSTACLES OR DITCHES UNLESS YOU ARE ABSOLUTELY CERTAIN OF THE STABILITY OF THE LANDING POINT.**

Never sample lagoons or ponds unless there is a flat area of ground to stand on as you sample. If not, sampling from lagoons will require a planned system incorporating such safety measures as securely fixed lifelines, harnesses, life-jackets, etc, depending on the specific condition on the site.

5. INSPECTION AND SAMPLING OF WASTE DISPOSAL SITES

Hazards:       Slips, trips and falls  
                  Falling debris/material  
                  Being struck by a moving vehicle  
                  Contact with moving machinery  
                  Fire  
                  Exposure to harmful substances  
                  Sharp protruding objects  
                  Confined spaces

Precautions to be taken

When visiting or working on any premises you must report to the site manager or his representative, both on arrival and when leaving the premises. Entry to and exit from premises or sites must be via authorised routes. Do not attempt to climb security fences.

Ensure that you comply with established safety instructions/rules and obey any warning signs.

Park your vehicle in a safe place.

Ensure that you are escorted by the site manager or his representative.

Wear safety footwear, a safety helmet and high visibility clothing.

Ground conditions are often unpredictable so avoid approaching steep embankments.

Be alert to the danger from passing vehicles. Many will be visitors to the premises and unfamiliar with the location.

Keep clear of mechanical chutes, conveyor belts and other tipping operations. Dust hazards will exist in addition to the danger from falling material.

Lagoons are particularly hazardous and should be avoided. Sampling from lagoons requires a planned system incorporating such safety measures such as securely fixed lifeline harnesses, life jackets, etc, depending on the specific conditions on the site.

When sampling tip leachate it must be remembered that the exact nature of the substance is not known. Gloves must always be worn and if clothing becomes contaminated it should be removed and the skin flushed with plenty of water. In windy conditions it may be necessary to use eye protection to protect against spray.



6. INSPECTION AND SAMPLING OF CONSTRUCTION SITES

Hazards: Injury from falling objects  
Slips and trips  
Falls due to unguarded or collapsing excavations  
Being struck by moving plant or vehicle  
Noise

Precautions to be taken

When visiting or working on any premises you must report to the site manager or his representative, both on arrival and when leaving the site. Entry to and exit from sites must be via authorised routes. Do not attempt to climb security fences.

Park your vehicle in a safe place.

Due to the rapidly changing nature of the hazards on construction sites it is highly desirable that you are guided by the site manager or his representative.

Wear a safety helmet and safety footwear.

Comply with established safety instructions/rules and obey any warning signs.

Be alert at all times to vehicle and plant movement. It may be restricted to set routes.

Beware of congested walkways and untidy working places as they create a tripping hazard.

Keep clear of sides of deep excavations.

Do not enter any excavation or trench greater than 1.2 metres deep unless it has been shored or timbered.

Never loiter close to vehicles and plant.

Never ride in unauthorised positions on vehicles and plant.

Keep clear of sides and buildings under construction, stacks of materials and spoil heaps.

## APPENDIX 2

### INFORMATION REGARDING LEPTOSPIROSIS (WEILS DISEASE)

#### TETANUS AND CONTACT DERMATITIS

Leptospirosis            letero is a listed Industrial Disease under the RIDDOR Regulations 1985.

#### THIS DISEASE CAN BE FATAL IF PROPER TREATMENT IS DELAYED.

This strain of the disease can be contracted through contact with material/water which has been contaminated with urine from infected rats.

The infection commences with high temperature and general muscle and joint pains.

You must seek medical advice immediately because the disease symptoms are similar to influenza, pneumonia, tonsillitis, rheumatic fever or nephritis and later, jaundice or gall stones, etc. Show the doctor your white card. It is advisable that next of kin are also aware of the card and its whereabouts.

Leptospirosis            Hardjo is a common bacterial infection of cattle. Symptoms are similar to Weil's Disease as above.

In the case of Leptospirosis Hardjo, a severe headache may be the first symptom/indication.

#### Consult your Doctor

#### Tetanus

Tetanus is a disorder of the nervous system, which causes rigidity and spasms of the muscles.

It is caused by a bacteria which inhabits soil or road dust.

**IT CAN BE FATAL, CAUSING DEATH THROUGH SPASMS AND ALSO THE LOSS OF LIMBS HAS BEEN KNOWN.**

Infection generally follows a wound contaminated by soil, especially a deep puncture or lacerated wound.

Symptoms usually appear four and five days after the wound has been inflicted, although there may be delayed for three or four weeks. The first signs are usually stiffness of the muscles near the wound followed later by stiffness about the muscles in the jaw.

The disease can be prevented by tetanus immunisation. Persons exposed to soil or road dust in their employment are especially vulnerable, and should have effective immunisation.

Initial immunisation is achieved by a course of three injections, a booster being needed every ten years for people at risk. Immunisation is available within the National Health Service through General Practitioners.

## INSTRUCTIONS TO EMPLOYEES

### Precautions against Leptospirosis and Tetanus

After coming in contact with sewage, water from a watercourse or cattle, wash your hands and forearms with soap and water - even if gloves have been worn.

If your clothes or footwear become contaminated, wash them thoroughly. It is particularly important to do the former, before eating any food, taking drink or smoking. Wet protective clothing should be cleaned and dried as soon as possible.

### DO NOT WORK IN WATER OR SEWAGE WITH OPEN WOUNDS ON HANDS OR ARMS

Take particular care to wash thoroughly and cleanse with antiseptic any cut, scratch or abrasion as soon as possible, whether the injury was caused at work or not. Keep any wound covered, even when wearing gloves, until either this type of work is complete or the wound is healed up.

Every accident/incident at work, however trivial must be reported to a supervisor who will enter details on to an accident form.

### Contact Dermatitis

Contact Dermatitis is caused by contact between the skin and some substance to which the skin is sensitive. The onset may be gradual or sudden, depending upon how sensitive the individual is to the incriminating substance. A large range of substances can produce contact dermatitis, which include oils, grease, paint and metal salts. Do not allow the skin to come into contact with these substances and always wear gloves or gauntlets when exposure is likely. Accidental splashes should be washed off as soon as possible.

In the event of an outbreak of dermatitis contact your local GP immediately and advise the Regional Safety Adviser as well as your Supervisor.

### APPENDIX 3

#### ELECTRICITY AT WORK REGULATIONS 1989

The Electricity at Work Regulations 1989 came into force on 1 April 1990 and cover all electrical work activities. The Authority, therefore looks to all its employees to comply with the Regulations and Safety Rules and procedures applicable to the work, which they carry out, and to set a good example to others.

No person shall be engaged in any work activity where technical knowledge or experience is necessary to prevent danger or where appropriate injury, unless that person possesses such knowledge or experience.

A little knowledge is often sufficient to make Electrical Equipment function, but a much higher level of knowledge and experience is usually needed to ensure safety.

## NATIONAL RIVERS AUTHORITY

### CODE OF PRACTICE FOR ELECTRICAL SAFETY

#### POLICY STATEMENT

The Authority's safety policy has been made for the protection of those persons, whose employment involves their using or carrying out work on the National Rivers Authority's electrical system and equipment, and any person, who may be affected by the Authority's activities.

This policy is in accordance with the requirements of:-

The Health and Safety at Work Act 1974 and

The Electricity at Work Regulations 1989 and

The National Rivers Authority Health and Safety Policy document.

It is the duty of all employees, who may be concerned with the operation of, or work upon, the electricity systems and equipment of the National Rivers Authority:-

- a) Comply with the Authority's Code of Practice for Electrical Safety.
- b) Be thoroughly conversant with all legislation governing the work they may be called upon to undertake.

The above Code of Practice shall not be interpreted as over-riding any legislation in force at the time of issue of the Code, or which may come into force at a later date.

It is the duty of the National Rivers Authority, hereinafter referred to as the Employer, to comply with the provisions of the Electricity at Work Regulations 1989, and to this end the Employer recognises a duty to train, instruct and supervise employees where necessary, and to provide and maintain plant and equipment in a safe condition. The Employer also acknowledges the duty to provide a safe place to work free of danger, and to provide safe access to and egress from that place of work free from danger.

It is the duty of every employee while at work:-

1. To co-operate with his employer so far as is necessary to enable any duty placed on that employer by the provision of the Electricity at Works Regulations 1989 to be compiled with;
2. To comply with the provisions of the aforementioned Regulations in so far as they relate to matters which are within his control and;
3. To conduct his work so as to prevent danger.

# ELECTRICITY AT WORK REGULATIONS 1989

## Employers Responsibilities

The Employer shall take all reasonable steps to ensure that for:-

### **1 - ELECTRICAL SYSTEMS**

- (i) The design and purchase of new equipment, and extensions to existing electrical systems shall be carried out by persons with the appropriate technical knowledge, experience and understanding of current Regulations, Standards (British or Harmonised European), and Established Codes of Practice.
- (ii) All items of electrical equipment shall be selected to take account of the environment in which they are to be installed.
- (iii) All new electrical installation work shall be inspected and tested prior to hand over or putting in to service, and an appropriate certificate shall be issued as to its suitability.
- (iv) All equipment shall be clearly labelled, particularly switchgear and fuse boards, for circuit identification purposes.
- (v) Circuit diagrams and plans shall be maintained to provide a comprehensive record of all electrical systems and arrangements shall exist for updating these following system modifications.
- (vi) All electrical systems shall be periodically inspected and tested and appropriate records maintained.
- (vii) All electrical systems shall be maintained as appropriate to prevent danger so far as is reasonably practicable.

### **2 - PERSONNEL**

The Employer recognises there are many different levels of competency in relation to electrical work. Accordingly:-

- (i) No person shall be engaged in any work activity, for which he does not possess the appropriate technical knowledge or experience necessary to prevent danger.
- (ii) It is the policy of the Employer to authorise only such employees as possess the appropriate technical knowledge or experience to prevent danger.

- (iii) Authorised persons shall receive such training as is appropriate to the work they are required to do. From time to time such persons shall receive refresher training as is deemed necessary by the Employer.
- (iv) Only person duly authorised shall undertake work on any electrical system.
- (v) Any authorised person carrying out work on an electrical system shall adopt approved safe working procedures so as not to give rise to danger.

## ELECTRICITY AT WORK REGULATIONS 1989

### Employee Responsibilities

It shall be the duty of every employee while at work:-

- To comply with the provisions of the specified statutory Regulations so far as they relate to matters within his control.
- To co-operate with the Employer, through management and supervisory staff so far as is necessary to enable the Employer to perform or comply with the provisions of the Electricity at Work Regulations 1989.
- To undertake work in connection with electricity only when authorised to do so.

### **REMEMBER**

**Never work on electrical systems unless you have received the necessary training, have the appropriate experience, and have been authorised to undertake the work.**



#### APPENDIX 4

- 1) Code of Practice for Marine Activities Part I and II.
- 2) NRA Accident Report Procedures Manual (RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurrences Regulation 1985).
- 3) Health and Safety Regulations 1981.
- 4) Safety Signs Regulations 1980.
- 5) Controlled Waste Regulations EPA 1990
- 6) Electricity at Work Regulations 1989
- 7) COSHH Regulations 1988
- 8) Health and Safety at Work Act 1974
- 9) Construction Regulations 1994
- 10) Manual Handling Regulations 1992
- 11) Noise at Work Regulations 1989
- 12) Code of Practice for Electrical Safety
- 13) Lone Worker Policy