

IN THIS ISSUE ▾

Trackside reports:
pages 2-3

Train operation
reports: pages 4-5

Freight reports:
pages 6-7

London Underground
reports: pages 8-9

CIRAS provides an
impartial service for rail
industry staff to report
safety concerns in
confidence.

Your concerns?



To enable CIRAS to understand how you feel about the service available to you, we have produced a simple survey.

There are eight questions ranging from your views of the environment you work in, and whether you think it is safe, to your awareness of CIRAS, and whether you would use our service. We also want to know if you think CIRAS is effective at getting the issues you raise resolved.

“To date, more than 500 surveys have been completed...”

To date, more than 500 surveys have been completed and the information that we are receiving is proving to be very helpful. For example, one of the questions we ask is ‘what would stop you from reporting to CIRAS?’

From the information gathered so far, 30% stated

that they were unsure how CIRAS works. In response, we devoted this space in the previous issue of *The Reporter* to explain our reporting process.

Also, we reviewed our publications and presentations to ensure that we are clearly stating how the CIRAS service works, and what you can expect from us (see the step by step chart on page 10).

Another interesting fact that has emerged from these survey results is that 30% of those who completed the survey stated they were concerned that their identity would be revealed, and they would be named if they used CIRAS. Our service has been in existence for over

15 years and during that time CIRAS has never revealed the identity of any individual who has used our service. And we never will.

“CIRAS have never revealed the identity of any individual...”

However, we recognise the need to reinforce this message continuously to all rail staff, and this is something that CIRAS is committed to. Protecting your confidentiality is something we take very seriously.

As the survey progresses there will be many other interesting facts emerging, and we will share these with you in future issues of *The Reporter*.

Meanwhile if you would like to complete the survey yourself please contact bobby.wright@ciras.org.uk and copies can be posted or emailed directly to you.

Online contact

Recently we launched the new online contact form on our website, and we have been really pleased with your response. Many rail staff are making contact with CIRAS now using this service.



It is simple, quick and easy to use. Just visit our website www.ciras.org.uk and click on the green ‘Report Form’ button in the top left hand corner. Complete your contact details and we will be in touch at a time convenient to you. Don’t stay silent, talk to CIRAS.



IN BRIEF

Following the start of work on a London Underground site at Triangle sidings suspected asbestos was identified in various materials. Staff asked for clarification on the appropriate procedures through CIRAS.



LUL explained their processes and reassured staff that work had ceased immediately, and a licensed asbestos contractor was appointed to remove the asbestos. A management review was also undertaken which included the project team responsible for the work, safety specialists and the asbestos contractor.

Health and safety issues at Berwick-upon-Tweed office. Concerns were raised about the working environment in the customer service office at Berwick-upon-Tweed station. The office was described as small and cramped with various health and safety issues highlighted. East Coast addressed a number of the issues and are now undertaking periodic reviews.

CIRAS EVENTS

DB Arriva UK Ltd recently arranged for CIRAS to give presentations to a wide selection of their workforce - from office staff to depot Engineers - at two locations in Newcastle.

Railtex Conference 2011. CIRAS attended this exhibition that covers railway equipment, systems and services held at Earls Court, London. Many delegates who visited the CIRAS stand were asked to complete the survey, helping us to understand the industry's safety concerns and how CIRAS is viewed.

CIRAS has attended many other events so far this year, from company safety briefings to training events. **Why not ask your Manager to invite CIRAS for a presentation.**

Risk of electric shock from Overhead Line Equipment

The risk of receiving an electric shock from the wires on the supporting fixtures of the Overhead Line Equipment (OLE) - located next to the flyover on the Down Tilbury Line - concerns one reporter.

At seven miles 33 chains the Down Tilbury Line runs over a flyover. The Network Rail infrastructure runs parallel to the Down Tilbury Line at ground level, which results in the OLE being positioned at the same height as the flyover. The supporting fixtures on the overhead mast (plate number 7/15) do not have any protective mesh screening.

Someone working with equipment on the flyover could come into contact with the wires and receive an electric shock from the 25,000 volts. It appears to the reporter that at this location the wires from the OLE are within six foot of the flyover.

"... there is no signage at this location warning people of the danger"

The reporter is also concerned that there is no signage at this location warning people of the danger of the electric current running through the OLE wires. Could Network Rail:

- Erect a wire mesh screen around the mast and its supporting fixtures to prevent anyone coming into contact with OLE at this location?
- Put up signage on the flyover and in the vicinity warning people of the dangers of the OLE and the electric current it carries?



Network Rail inspected the entire Tilbury Line

Response from Network Rail:

Network Rail would like to thank the reporter for bringing their concerns to our attention. We have completed an inspection along the entire Tilbury Line adjacent to the Barking flyover and were unable to find a structure 7/15.

However, we do agree with the reporter that there are issues at several locations between structure 7/14 and 7/27. At structure A7/14 the guard needs repairing, at structures A7/18, A7/21 and A7/25 the guard needs extending, at structure A7/20 the ATC sheathing needs replacing and at structures A7/27 and A7/28 new guards need installing. The work on these structures has been completed, or was planned to be completed by June.

As a result of this report important safety improvements have been made, including affixing a warning sign which was installed in March.

Full version available at www.ciras.org.uk

High visibility clothing for emergency service personnel

A reporter is concerned that Civilian Police, and other emergency service personnel, are putting themselves at risk by not wearing Personal Protective Equipment (PPE) when attending railway incidents. An incident occurred where a train collided with a herd of cows on the Line. The Civilian Police attending the incident were accompanied by a person in full orange PPE (believed to be railway staff), whilst trains were running at caution through the affected area.

The reporter is concerned that the Civilian Police were putting themselves at risk of not being seen by oncoming trains when they were trackside, at night, dressed only in their black uniforms. Although it is mandatory for railway personnel to wear high visibility clothing and hard hats when on or near the Line, the Police only had small reflective blue and white lapels to identify them.

According to the reporter, Network Rail's Standard NR/L2/OHS/021 states that a safety helmet shall be worn when on or near the Line and that it allows certain groups of professionals to be exempt from wearing PPE.



Are Civilian Police putting themselves at risk?

This includes emergency services personnel, British Transport Police, ORR and Rail Accident Investigation Branch. Despite Network Rail trying to educate emergency service personnel about the risks of being

on the railway, the only force that appears to appreciate the risks and that wears suitable high visibility clothing are the British Transport Police.

"the only force that appears to appreciate the risks ... are the British Transport Police."

It is appreciated that life-threatening operational situations may not allow the time required to put on high visibility clothing. However, safety buses or vans on site usually store this PPE.

- Could Network Rail explain why the Standard exempts certain groups of people from wearing appropriate PPE when on or near the Line?
- Is it possible for the attending Mobile or Local Operations Manager to provide high visibility clothing to emergency services when attending incidents?
- What other steps could Network Rail take to ensure all those coming onto the railway wear high visibility clothing and hard hats?

Response from Network Rail:

Network Rail would like to thank the reporter for bringing their concerns to our attention. The reason for the PPE standard exempting certain groups is that it is not always appropriate for the activities. The emergency services have their own operating procedures that state before they access the railway infrastructure they check that the railway has been made safe with no trains running.

The British Transport Police (BTP) were consulted on this matter and they have confirmed that in their own operating procedures, that covers going on or near the Line, BTP officers are required to wear High Visibility (HV) clothing, which is worn at all times. BTP have an ongoing programme to work with the Civil Police Force and other services

that may require access to the railway infrastructure to emphasise the dangers of the railway environment and the need to wear the HV clothing when going on or near the Line. The BTP Officer consulted stated that, if they were aware of the reporter's specific incident they could have investigated this further if it was in their area.

Operations Managers and Mobile Operations Managers were consulted with and they stated that their vehicles are not of a sufficient size to carry more than a few items of extra PPE but they do issue these to visitors when required and, when they are given notice of visitors, arrange for PPE to be made available. They have confirmed that no individual would be allowed access to the infrastructure without wearing

suitable PPE for the task they are performing. This includes the Civil Police Force. Hard hats are not always appropriate for the tasks the emergency and other services are performing. The BTP programme to emphasise the dangers of the railway environment, is ongoing and they stress the need to make sure the railway is safe for them to access and to wear HV clothing.

Full version available at www.ciras.org.uk



'Poor' position of Driver's seat on class 156 units

Drivers working for Northern are concerned about the positioning, size and mobility of the Driver's seat on the Class 156 units.

In recent years the older style Driver's seat has been replaced by thicker seat which reduce space in the cab. The reporter comments that Drivers who are above average height are finding they have less leg room and have to sit in awkward positions in order to keep one foot on the Driver Safety Device (DSD) pedal.

In addition, the armrests move independently of the seat, this means a Driver who requires the seat to be raised will not be able to rest their arms. It is reported that this is causing back problems for many Drivers.



Drivers above average height are finding they have less leg room with the new seats

"...it is reported that this is causing back problems for many Drivers."

The reporter is aware that Northern organised a trial in some units where the seat was changed and the DSD pedal lowered. However, this did not resolve the issue and the reporter suggests that:

- the seat is replaced by one that is much thinner;
- the DSD pedal is lowered by a couple of inches;
- the armrests should be fixed to the chair and not the cab; and
- the seat is able to be lowered and raised.

It is felt that these changes will enable the seating to meet the individual needs of every Driver. Could Northern comment on the suggestions made by the reporter?

Response from Northern:

Following a report undertaken by DeltaRail the standard ergonomic design employed by Northern is for people in the range between 5th percentile female and 95th percentile male. These equate to the following heights:

Percentile	Male	Female
5th	5'5"	5'0"
95th	6'1"	5'8"

During the modifications conducted so far, Northern have strived to meet these requirements. Some complaints have been received from people outside this range. However, it is not believed to be practical to satisfy people outside this range as we are limited in the dimensions of the cab and ensuring compliance for all range of sizes would likely result in significant cost.

Northern, through engagement with the cab improvement team (a cross functional team involving Train Crew representatives) has now undertaken to deal with people who fall outside this specified range on a local level using an ergonomic assessment tool to assess an individual's suitability to drive specific trains without sustaining any discomfort or injury.

Trials have been conducted on 156420 where the DSD pedal has been

lowered and a new Driver's seat fitted with a spacer fitted to the back wall to bring the seating arrangement further forward allowing for shorter Drivers to reach the DSD pedal. However, this had to be removed as taller Drivers were having difficulty with leg space. This trial was predominately tested in the north area (Tyne, Tees, Lancashire and Cumbria) where it was well accepted.

"During the modifications conducted so far, Northern have strived to meet requirements."

Now that the unit has been diagrammed in the west area (Greater Manchester, Merseyside and parts of Cheshire), we are aware that this arrangement is not proving popular and are progressing this through the Cab Improvements Group. The Cab Improvement Group is a sub-group of the Joint Safety Committee, which was set up in response to feedback for improvements to be made to train cabs.

Any generic problems with a cab should be directed through this forum. However, if a particular Driver has a concern about one particular cab seat then this should be reported in the defect book.

Additional train operation reports

Please visit our website www.ciras.org.uk/resources to read further train operation reports of interest.

Mobile phone use at depots

Concern has been expressed about the use of mobile phones at National Express East Anglia depots. Staff (including contractors) are frequently seen using their mobile phones whilst carrying out operations around the depots. An example is given of a Driver and Shunter both using their mobile phones whilst carrying out a manoeuvre.

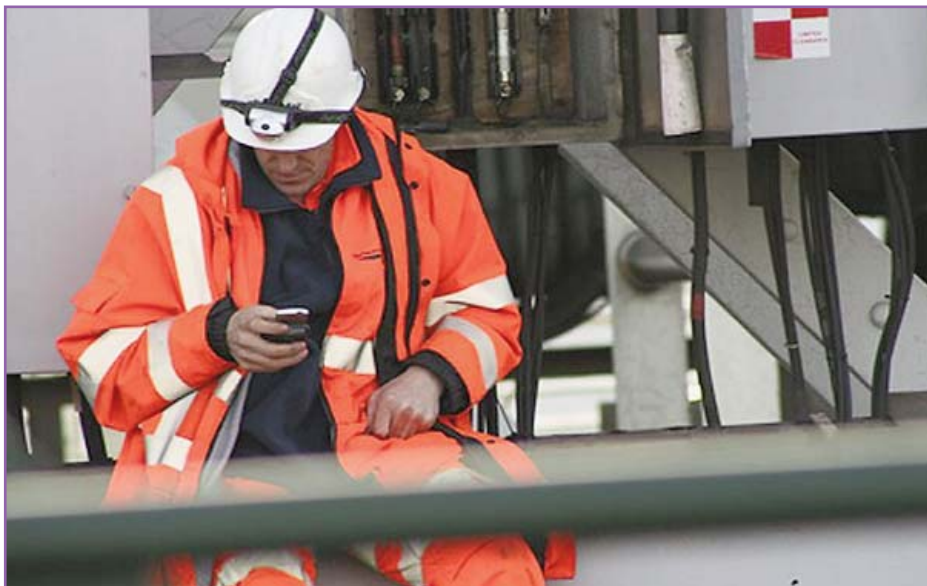
Although the company have recently issued posters warning staff about the use of mobile phones in the work place, the reporter feels that not enough is being done to enforce the rules. An accident could easily happen if someone is distracted by their mobile phone.

"An accident could easily happen if someone is distracted by their mobile phone."

The reporter suggests a total ban on the use of mobile phones in depots as the present rules implemented by NXEA are clearly being ignored.

Could NXEA comment on:

- company policy on the use of mobile phones whilst at work; and
- what procedures are in place to ensure that company policy is being followed.



The reporter suggests a total ban on the use of mobile phones in depots

Response from National Express East Anglia:

It has previously been recognised that mobile phones have become common place in everyone's daily life but in the work place they may pose specific risks to safety.

Therefore in 2008 instructions were issued at NXEA's two main engineering depots regarding the safe use of personal mobile phones and other personal audio devices whilst at work. This stated that if staff are required to make or take an urgent personal phone call then they should use their rest breaks and always ensure they are in a position of safety.

The risks and instructions regarding the use of personal mobiles is clearly explained to all new starters and contractors before starting work at the depots as part of our local depot safety instructions/briefing.

It is also recognised that some staff are issued with company mobile phones for use whilst at work, and similarly staff are instructed to always ensure they use them in a safe manner and are in a position of safety.

Depot Drivers and Shunters are instructed during their training that the use of mobile phones whilst



Mobile phones can pose specific risks to safety

carrying out operational duties is strictly prohibited. As part of their periodic competence management and assessment, this requirement is reiterated, and in addition periodic unannounced monitoring for compliance is undertaken. The control of shunting movements is however conducted by the use of hand held radios.

"NXEA will raise the awareness of this matter to staff through further briefings."

Management and Director safety checks are conducted regularly at the depots and have not identified use of mobile phones where safety has been compromised.

It is acknowledged that continuous monitoring of mobile phone use in accordance with local instructions is difficult to police, however NXEA will raise the awareness of this matter to staff through further briefings. It is important to note that any member of staff observing a non-compliance is obliged under the *Health & Safety at Work Act* to report the matter to their Manager or Supervisor. NXEA already have systems in place to enable staff to report the specifics of the matter to their local Managers anonymously.

Drivers 'authorising themselves' to pass stop boards



Are Drivers becoming 'desensitised' to stop boards?

A reporter is concerned that Drivers are becoming 'desensitised' to stop boards at Worksop depot in Nottinghamshire. The reporter believes this could potentially cause a collision.

When entering the depot, for example, Drivers would normally stop at the boards as required and await instructions from a Shunter to ensure there are no conflicting train movements. In recent months, due to a staff shortage, there have been gaps of up to four hours where no-one is available to provide instructions. As a 'work around' Drivers have been told they can phone control 60 miles away.

"Could more effective cover be arranged at the depot..."

However, the advice given over the phone would appear to imply that if Drivers are comfortable with passing the stop boards they should

effectively authorise themselves. According to the reporter, this compromises safety by increasing the likelihood that a Driver will decide to proceed past a stop board without full awareness of other train movements.

A Shunter with an overview of train movements can provide clear instructions based on local knowledge, whilst someone based at control 60 miles away is not in a position to do this. The reporter asks DB Schenker the following questions:

- Could the practice of passing stop boards in this manner be reviewed?
- Could local Managers, Drivers and Shunters be briefed on the associated risks?
- Could more effective cover be arranged at the depot so clear instructions can be provided?

Response from DB Schenker:

DB Schenker would like to thank the reporter for raising their concerns.

The issues at Worksop highlighted in this report have been looked at by the Area Production Manager and a procedure for Driver only operation implemented with the approval of Network Rail in a joint Safe System of Work/Risk Assessment (SSOW/RA), which was consulted through the local departmental committee and Health and Safety Representatives.

"New signage is now in place..."

New signage is now in place referencing 'Please contact Signaller' and 'Proceed if Line is clear after contacting Signaller'.

In addition any movements into the Down and Upside will have a Person in Charge in place before movements take place, stated in the SSOW/RA.

"Drivers have been asked to identify any improvements that are viable..."

Safety performance is being monitored and has not been affected. During the trial period Drivers have been asked to identify any improvements that are viable and would help make operations at Worksop even safer.

Over the coming months management will continue to monitor the changes to ensure that a safe transition is taking place.



Safety performance has not been affected

No running water at Mossend depot

A reporter complains there is no running water, or washing facilities, at Mossend depot used by Freightliner Drivers. Another CIRAS report about this depot was made in March last year.

The current reporter says that hygiene inevitably suffers without the adequate provision of hot and cold water because germs spread far more easily. It is acknowledged that the freezing weather has contributed to the problem, but the reporter suggests a long-term solution needs to be found.

"...a long-term solution needs be found."

The pipe carrying water to the depot is above ground and is therefore liable to freeze again. The earlier CIRAS report asked whether there was any plan to tackle the underlying issue. The Freightliner response at the time indicated the issue had been resolved.

- Would Freightliner consider laying pipe work underground to avoid a repeat occurrence?
- Are any other measures being considered at the current time?



Freightliner have buried the water supply pipe



Hygiene inevitably suffers without hot water

Response from Freightliner:

Apologies for our failure to respond to this report in a timely manner. Our Senior Driver Standards Manager based at the location has confirmed that to eradicate this as a future problem the water supply pipe has been buried underground.

During the cold weather when the pipes were frozen, water and a facility for heating water for washing, were available. The system failure occurred during the worst winter conditions recorded at the location.

During this time the staff were helpful, inventive, persevering and understanding and their goodwill in keeping operations moving was greatly appreciated by the management.

Please visit our website www.ciras.org.uk/resources to access further freight reports of interest.

An invitation to freight staff

CIRAS is always striving to improve links with the different sectors of the railway industry. We feel that awareness of CIRAS within the freight sector is improving but there is always more that can be done.

CIRAS would welcome the opportunity to visit those of you who are often working in the more remote locations throughout the railway network. This would enable us to explain to you how CIRAS works both for you as a railway employee and the company that you work for.

"CIRAS would welcome the opportunity to visit..."

Of course, under normal circumstances health and safety concerns should be raised through your normal company channels, but there are often good reasons why an individual might not want to use these channels.



You might see fellow workers repeatedly carrying out unsafe acts - people riding on wagons for instance. Alternatively, you might have to deal with faulty equipment that has been reported but no action has been taken. Understandably, these issues would concern you because they could result in a colleague having a nasty accident. Just two examples where CIRAS could help.

For you, CIRAS might be the appropriate option for reporting these or other concerns. The important thing is to ensure that the company understands the safety risk that concerns you before there is an accident. Let us not forget, it is the aim of CIRAS to help make the railway a safer place for everyone to work in.

Clarification on working with asbestos

Subcontracting staff working in close proximity to asbestos on the Victoria Line is a concern for one reporter.

Staff carrying out points and signalling work often undertake tasks within one or two centimetres of asbestos and are worried about the health effects related to disturbing it.

"Staff ... are worried about the health effects related to disturbing it."

The reporter comments that staff are required to remove and insert new cables into areas surrounded by asbestos.

The work is carried out in confined spaces such as tunnels, interlocking machine rooms and signalling equipment rooms. The reporter would like to know:

- What Personal Protective Equipment (PPE) is required for staff working near to and removing asbestos?
- Is it safe for staff to carry out the above mentioned cabling work in such close proximity to asbestos?

Response from London Underground:

Before any works commence the contractor or subcontractor must review the asbestos surveys and carry out a suitable risk assessment. Any requirement for PPE should be identified in the contractor's or subcontractor's risk assessment and method statement.

If contractors or subcontractors are working near asbestos containing materials, and there is the potential for their work to lead to the accidental disturbance of the asbestos, then appropriate PPE would be disposable coveralls and disposable P3 dust masks.

Only HSE licensed asbestos contractors are permitted to remove asbestos from any location on the underground. This is detailed within the LUL Control of Asbestos Procedure.

"Only HSE licensed asbestos contractors are permitted to remove asbestos..."

As long as the work carried out by the contractor or subcontractor does not disturb asbestos there is no risk - the contractor or subcontractor is



A suitable risk assessment must be carried out

working near asbestos and not with asbestos.

As previously stated a suitable risk assessment should have taken place before works commence and any risk should be addressed in the contractor's/subcontractor's risk assessment and method statement.

In addition to these controls LUL has arranged for a staged migration of subcontractor staff from the current entry permit system to the 'London Underground Combined Access System' (LUCAS) card certification, enabling LUL to monitor asbestos awareness training provision to supply chain personnel.

This process has begun on the Victoria line upgrade programme.



Is it safe for staff to carry out cabling work in close proximity to asbestos?

Additional LUL reports



Please visit our website www.ciras.org.uk/resources to access further London Underground reports.

Lack of 'road handling' on new S Stock trains

Metropolitan Line Train Operators are concerned about the lack of 'road handling' training being provided for the new S Stock trains.

The reporter comments that in the past Train Operators received two weeks classroom training followed by specific road handling duties with an Instructor Operator, where staff were not expected to operate new units by themselves.

Currently staff still receive classroom training but the amount of road handling training received varies greatly.

Some staff have had sufficient time to do this training whereas others have received little, if any at all. The reporter is concerned that without adequate training, staff will not feel confident should something go wrong whilst operating the train, increasing the risk of a mistake being made.

"... without adequate training, staff will not feel confident should something go wrong"

The reporter would like all Train Operators to receive between three days to a week of continuous road handling training. Could LUL comment on:

- The current procedure for training on new stock?
- The number of days' road handling a Train Operator should receive?



The amount of 'road handling' training given to staff varies greatly

Response from London Underground:

Thank you for your enquiry. The procedure for training Train Operators on the new S Stock is similar to that for other stocks which are currently being introduced onto London Underground.

Before training started, a training needs analysis was completed to identify risks associated with the new stock. Subsequent 'real time' evaluations have been carried out to establish the optimal stock handling times; this included extensive Trade Union consultation.

Each S Stock conversion delegate had eight days in a state of the art simulator and the classroom, and two days available for practical experience driving the new stock for real, observed by an Instructor Operator.

The Train Operators are already route familiar and therefore only need to learn the stock elements. There is a robust defect handling module within the training which allows the Train Operator to respond to incidents.

The last two days are spent stock handling with an Instructor Operator on the train who uses their

observation and professional judgment to ascertain the amount of, if any, additional stock handling that may be required before signing delegates off.

All the Metropolitan Line Train Operators who have attended the course, have passed the S Stock conversion course, which commenced in June 2010. Only two Operators required more time in the simulator.

"Before training started, a training needs analysis was completed..."

The Victoria and Jubilee Line upgrades have similar stock handling timings. They have eight days in the simulator and then the last two days are spent on stock handling.

All Operators have received S Stock handling. Where there has been a gap between Train Operators completing their training and operating the S Stock, they have been given an opportunity to undertake 'refresher' training.

Your work environment

Many companies are reviewing their approach to the management of occupational health, and how it is managed within the industry.

CIRAS has carried out its own analysis of reports that relate to occupational health. The largest category is fatigue (33%). Typically, this is where staff are reporting the effects fatigue may have on their ability to function in their job and their long-term health.

"CIRAS has carried out its own analysis..."

Not far behind is work environment (29%), including issues such as uncomfortable seating positions in train cabs, or poor lighting and excessive noise.

CIRAS's reporters are less concerned about slips, trips



and falls and mess facilities (15% each).

Finally, potential exposure to hazardous substances, such as asbestos and ammonia, accounts for 9% of CIRAS reports in the occupational health area.

Don't forget CIRAS will raise on your behalf any occupational health concerns you may have, as well as safety issues. Don't stay silent, talk to CIRAS.

EDITORIAL

If you have any comments or suggestions

Please contact Bobby Wright, Editor
email bobby.wright@ciras.org.uk or telephone
020 3142 5361.

General Enquiries

Email enquiries@ciras.org.uk. Please note that CIRAS cannot accept reports at this email address.

Electronic Newsletter

If you would like to receive an electronic copy of this publication, *The Reporter*, email us at newsletterrequests@ciras.org.uk.

Website

For more reports and responses please visit our website www.ciras.org.uk.

Have you got a safety concern?

Contact CIRAS by

- Using the Freepost form on page 11.
- Calling us on Freephone 0800 4 101 101.
- Texting your contact details to 07507 285887.
- Going to our website www.ciras.org.uk and completing the online contact form.
- Completing the Freepost contact form in the CIRAS leaflets.

Our team will call you

At a time that is convenient, one of our friendly team will get in touch and discuss your health and safety concerns. It is very easy and very simple.

We will write a report

Your CIRAS contact will then prepare a written report for you on your behalf. There is no report writing required by you. We will make sure the report does not contain ANY information that can identify YOU.

The report is sent to the company

We then send the written report to the relevant company for response.

The company investigate

On receiving a CIRAS report the company will investigate the matter. They will then prepare a suitable response for CIRAS to explain their findings, and any actions they intend to take to address the concern you have identified.

We send you feedback

Once we receive the company response we will then provide you with a copy. Also we will ask you for your feedback. If you are satisfied with the company response then no further action is taken. However, if not, you can contact CIRAS again and we will continue to pursue the matter on your behalf.

**Do you have concerns about the safety of your working environment or conditions?
Have you witnessed a safety critical incident?**

If so, please use the space below to report the issue or event of concern. The information you provide will be treated as confidential. We ask you to provide your name and contact details so that a CIRAS researcher can get in touch to discuss your report. Once your report is processed, your report form will be destroyed. CIRAS has NEVER compromised on confidentiality.

Detach here



Fold here

Name:

Home phone number:

Job title:

Home address:

Company:

Convenient time to call:

Fold here and moisten inside to seal

CONFIDENTIAL

Postage
Paid

FREEPOST CIRAS