MAINSTREAM RESEARCH NEWS

THE NEWSLETTER FOR HSE'S MAINSTREAM SCIENCE AND TECHNOLOGY PROGRAMME

ISSUE 19 **JANUARY 2002**

☐ NEW 'COMPETITION OF IDEAS' EXERCISE TO BE LAUNCHED

The 2002/3 Competition of Ideas exercise will be launched on 21 February 2002.

The Competition has been run annually since 1997. It provides a mechanism for HSE to present a series of broad issues to the research community, who are then invited to put forward their proposals for how that issue should be addressed through research.

Previous response to the Competition has been good. The inclusion of 24 issues in last year's exercise resulted in our receipt of 186 proposals from around 90 different contractors. Of these, 45 proposals (24%) were supported in principle.

The Competition of Ideas exercise will be featured in HSC/E's Strategic Research Outlook (SRO) document, which is published for the first time this year and replaces the Mainstream Research Market document, published from 1996 to 2001.

As reported in the last edition of this newsletter, a draft of the document was available on HSE's website between October and December 2001 for open comment and consultation.

The document provides a guide to HSE's research activities and includes information on the range of issues and topics (as well as new and emerging areas) on which HSE intends to commission research either now or in the future.

The document has a format which reflects the programme-based structure of HSE's business, as described in the HSC/E Strategic Plan 2001 to 2004. Research requirements are identified in terms of programme area (rather than by technical subject area, as was previously the case). In this way, it is intended to make clearer the link between HSE's research activities and its business needs.

The SRO, featuring the Competition of Ideas exercise, will be available via HSE's website. In addition, the Research Strategy Unit will be distributing hard copies of the document within HSE, to other Government departments, Agencies and Research Councils and to around 1600 present and potential contractors.

For further information on the Strategic Research Outlook document contact:
Dr P Ellwood (0114 289 2614)
Peter.ellwood@hse.gsi.gov.uk

For further information on the Competition of Ideas exercise contact:
Mr S Armitage (0114 289 2647)
simon.armitage@hse.gsi.gov.uk
or
Mr P Flaherty (0114 289 2366)
phil.flaherty@hse.gsi.gov.uk

In this Issue.....

☐ WHAT'S NEW?

☐ REVIEW OF EXISTING SUPPORTING SCIENTIFIC KNOWLEDGE TO UNDERPIN STANDARDS OF GOOD MANAGEMENT PRACTICE FOR KEY WORK-RELATED STRESSORS

(Contractor: Institute for Employment Studies)

Stress related problems are the second most commonly reported cause of occupational ill health after musculoskeletal disorders. It is widely thought that organisational factors play a significant part in contributing to employees' experience of stress. Consequently, the Health and Safety Commission has agreed a plan of work to tackle work-related stress. A key element of the Commission's strategy is the development of standards of good management practice for a range of work-related stressors. Such standards would help employers be clear about what is expected of them, allow them to monitor their performance in managing work-related stress, and thereby improve that performance. However, if the standards were insufficient in themselves to encourage employers to take effective action, they would provide a sound basis for the Commission to consider further regulatory action.

This project will provide a comprehensive and authoritative critical review and analysis of the scientific evidence underpinning the development of stress management standards in nine key areas: Poorly designed/managed work load; poorly designed/managed work scheduling; poorly designed/managed work organisation and job design; poorly designed/managed physical environment; poorly designed/managed procedures for eliminating damaging conflict at individual/team levels; lack of skill discretion; lack of decision authority; lack of appropriate proactive support; and lack of appropriate reactive support.

For further information contact:
Dr S Bristow (0207 717 6987). email: stuart.bristow@hse.gsi.gov.uk

☐ LONG TERM VIBRATION DOSES FOR VEHICLE OPERATORS

(Contractor: Loughborough University)

Most studies of exposure to whole body vibration in vehicles report measurements of less than 5 minutes duration which are assumed to represent the exposure during the whole day, and are then extrapolated over the total exposure duration reported by the driver. Although this methodology is attractive in terms of its practicability, the validity of the technique has not been tested.

The proposed EU Physical Agents (Vibration) Directive (PAVD) will increase the need to ensure that accurate estimates of vibration exposure are made from short term, practical and convenient measures. If extrapolation is not accurate, some industries may be forced to take unnecessary and costly action whilst others may make measurements that falsely indicate compliance with the PAVD.

This research will measure vibration exposures over full working days in at least 20 various types of vehicle or mobile machine, so that errors in current and proposed exposure evaluation techniques can be studied.

For further information contact:
Mr P Brereton (0151 951 4824)
email: paul.brereton@hse.gsi.gov.uk

☐ EVALUATION OF HEALTH AND SAFETY (FIRST-AID) REGULATIONS, APPROVED CODE OF PRACTICE (ACoP) AND GUIDANCE

(Contractor: Casella Science and Environmental Ltd)

The Health and Safety (First Aid) Regulations 1981 (FAW) require employers to provide first aid facilities, equipment and personnel for employees.

In 1995, the accompanying ACoP and Guidance were the subject of a consultation exercise on proposed changes to simplify the structure and the language, and to give employers more flexibility. The revision came into force in March 1997. FAW has not yet been the subject of such a review or evaluation despite the fact that there have been many changes in both workplaces and the type and patterns of work that people undertake, as well as major changes in the health and safety regulatory system.

Through this research project, HSE now wishes to evaluate the Regulations, ACoP and Guidance.

For further information contact:
Mr A Steele (0151 951 6688)
email: alastair.steele@hse.gsi.gov.uk

☐ WHAT'S NEW?

☐ DESIGNING IN SAFE PRACTICE FOR MAINTENANCE AND REPAIR: GOOD PRACTICE GUIDE

(Contractor: CIRIA)

Falls from height give rise to about 40% of all fatal and major injuries to construction employees. Many of these occur during inspection, repair or maintenance work, which all structures are likely to need during their lifetime. Maintenance and repair accounts for over 40% of all construction costs, of which 20 to 35% is required to provide access to the works.

Poor accessibility is likely to result either in maintenance being neglected or in the use of inappropriate, unsafe access routes, perhaps across vulnerable materials or components. At the very least this could lead to damage and failures that would be both expensive and disruptive to rectify, but at worse could result in accidents or fatalities. Safe, economic access for maintenance and repair of buildings/structures is therefore a major concern with significant implications.

Since 1995, designers have had a responsibility under the Construction (Design and Management) Regulations 1994 to have adequate regard for the avoidance or mitigation of hazards associated with repair and maintenance. However, there is little available advice.

This project will provide authoritative and practical advice on what designers can do to make a difference. It will provide good practice on providing safe access to critical parts of the building/structure for inspection, maintenance and repair and on designing out hazards at source.

For further information contact:
Mr M Holden (0151 951 3725). email: martin.holden@hse.gsi.gov.uk

☐ RISKGOV: COMPARATIVE ANALYSIS OF RISK GOVERNANCE SYSTEMS

(Contractor: Health and Safety Laboratory)

Governments are increasingly aware that they are judged by their success in managing risk. Perhaps conscious of the effects of train crashes, chemical scares, nuclear incidents and of genetically modified food and BSE, the recent Modernising Government White Paper acknowledged the need to improve the way that risk is managed.

Whilst the immediate drivers may vary, the same need is recognised throughout the EU (and beyond). A recent Commission of European Communities (CEC) - funded concerted action project (TRUSTNET) produced a framework for risk governance, which is consistent with HSE's 'Reducing Risk, Protecting People'. To test and further develop the general framework, a follow on, CEC part-funded project will compare the effectiveness and acceptability of the risk governance schemes for radiological and environmental discharges in three EU member states (Sweden, France and the UK). HSE is a collaborative partners in this work and this project represents HSE's contribution.

For further information contact:
Dr R Foster (0207 717 6962)
email: robin.foster@hse.gsi.gov.uk

☐ THE ROLE OF OCCUPATIONAL EXPOSURE LIMITS IN OTHER EU MEMBER STATES

(Contractor: South Bank University)

The Health and Safety Commission's Advisory Group on Toxic Substances (ACTS) is carrying out a review of the UK occupational exposure limit (OEL) framework. As part of this review, ACTS have asked HSE for assistance in obtaining information on the role of OELs in other EU countries. Consequently, this project will examine limit setting procedures in all EU member states. The legal status of OELs in different EU countries will be examined together with published data on their enforcement. An analysis of the different meanings of compliance with OELs in various EU countries and their relationship to the Indicative Occupational Exposure Limit Values (IOELV) Directive will also be undertaken. A more detailed study on the application of OELs in a number of EU States will be carried out. Trade Union safety representatives, regulatory inspectors, researchers and individual employees, will be interviewed to investigate how OELs are used in practice in these member states.

For further information contact:
Mrs S Wassell (0207 717 6281)
email: sara.wassell@hse.gsi.gov.uk

☐ WHAT'S NEW?

☐ HEALTH AND SAFETY RESPONSIBILITIES OF COMPANY DIRECTORS AND MANAGEMENT BOARD MEMBERS

(Contractor: Greenstreet Berman)

The Health and Safety Commission (HSC) has published new guidance - Directors' responsibilities for health and safety - which recommends action be taken on health and safety responsibilities for company directors and the board members of public and voluntary sector organisations. Production of this guidance takes forward (in part) action point 11 of the Revitalising Health and Safety Strategy (RHS) which stated that the guidance would ..'stipulate that organisations should appoint an individual Director for health and safety, or responsible person of similar status (for example in organisations where there is no board of directors).'

The promotion of greater responsibility will, in the view of Government and HSC, make a significant contribution to the RHS targets to cut work-related death, illness and injury in Britain over the next 10 years.

Following up on the HSC guidance, this project has been commissioned to establish the extent to which the top 350 companies, SMEs, public and voluntary sector organisations have appointed a director or board member equivalent to be responsible for health and safety. In companies or organisations where such an appointment has been made, this research will ascertain how that person's responsibilities have been determined, and by whom, and the arrangements in place to regulate how they operate. The project will examine the extent to which health and safety matters are considered at board level and the frequency with which such matters come before the board. The work also aims to identify the perceived benefits to business and to health and safety performance which result from having a health and safety director in place.

A second part of the project will be designed to return to the above questions and determine the extent to which practice and behaviour of the sample companies and other organisations has changed during the intervening period.

For further information contact:
Mr N Stone (0207 717 6484). email: neal.stone@hse.gsi.gov.uk

☐ SAFETY IMPLICATIONS FOR OFFSHORE MAINTENANCE OF USING PROPRIETARY MANAGEMENT/SCHEDULING SOFTWARE

(Contractor: National Engineering Laboratory)

HSE have become aware of potential failings and reliability-related problems regarding the growing use of commercially available software, adapted/applied to assist with the management of maintenance activities on offshore production installations. Industry has also raised certain concerns about automation of maintenance scheduling processes.

The appointed contractor will undertake work to examine the extent of potential and actual failures arising from the use of this software and other problems associated with its use. Advice for industry will then be prepared to help the sector ensure that safety and reliability is maintained by avoiding hazards and pitfalls that would otherwise pose a threat

For further information contact:
Mr B Miles (0207 717 6685)
email: bob.miles@hse,gsi.gov.uk

☐ DEVELOPING A FRAMEWORK FOR EVALUATING THE REVITALISING HEALTH AND SAFETY (RHS) STRATEGY

(Contractor: Institute for Employment Studies)

The RHS Strategy, launched last year, marks a significant change towards an outcome based, resource targeted approach to reducing the incidence of ill-health and accidents at work. Evaluating the success of the strategy is vital to assess its impact, to justify the new methods of working that it represents, and to fully address any deficiencies that may be identified.

This project, part funded by the Department of Transport, Local Government and the Regions, will develop a framework (an overall plan and rationale) for evaluation activities across the RHS strategy. The framework will consist of a range of elements to ensure that the evaluation of the RHS is comprehensive, coherent, consistent and communicated.

For further information contact:
Ms L McGuinness (0207 717 6621)
Email: lorna.mcguinness@hse.gsi.gov.uk

☐ EXAMPLES OF RECENTLY COMPLETED PROJECTS

☐ AN EXPERIMENTAL STUDY OF SPREADING LIQUID POOLS

(Contractor: Advantica)

Assessment of the hazards posed by the storage of flammable or toxic liquids in large tanks can be assisted by the use of mathematical models, used to calculate the consequences of leakages, which may include fires or explosions from dispersion of flammable vapours, or harm to persons from inhalation of toxic vapours. One component of such models is a mathematical representation of the spreading of a liquid pool, and in recent years a number of pool spread models have been proposed and implemented. However, there are a number of issues in the formulation of the spreading models that have yet to be resolved. In particular, one area of uncertainty is the boundary condition applied at the front of the spreading pool. Boundary conditions which are generally accepted as applicable to the spread of oil on water or to the dispersion of a cloud of dense gas in air may not be applicable to the spread of a liquid on land, as the balance of competing physical phenomena at the spread front is quite different. Resolution of the uncertainties this creates has been hampered by a lack of reliable experimental data at a large scale. Therefore, the aim of this research was to carry out a series of experiments to provide a sufficiently detailed database to resolve this issue.

A programme of 58 experiments was undertaken. The experiments studied the flow of liquid across a bund floor and measured the amount of liquid that escaped the bund for a wide range of bund geometries. From a large tank with an initial fill height of up to 1.8m, water was released through a slot at the base and was free to spread over distances of up to 10m on a specially constructed horizontal concrete surface. The rate of release was such that the vessel emptied in about 30 seconds. The experiments investigated the flow rate of water from the vessel, the initial rate at which the pool spread and the quantity of water which overtopped the bund. The data are summarised in a report which will be published shortly in the Contract Research Report series. The large scale of the test rig means that the results and information provided can be directly related to onshore sites. Most tanks used for storage of flammable or toxic liquids in the UK have capacities less than 50,000 cubic metres, although several do exist with capacities in excess of 100,000 cubic metres. The tank used in these experiments replicates a tank with a capacity of about 150,000 m^3 at a linear scale of one-twentieth, or alternatively a tank with a capacity of abou 20,000 m^3 at a linear scale of one-tenth.

For further information contact:
Mr I Hirst (0151 951 3526). email: ian.hirst@hse.gsi.gov.uk

☐ REVIEW OF CORROSION MANAGEMENT FOR OFFSHORE OIL AND GAS PROCESSING

(Contractor: CAPCIS Ltd)

This review of best practice in corrosion management has been undertaken to provide the oil and gas industry with assistance in the development and operation of corrosion management systems for offshore topside processing facilities. Practical experience from the North Sea has shown that the development of comprehensive corrosion management systems, coupled with a commitment by both the operator, maintenance contractor and specialist sub/contractors or consultants can lead to major improvements in the operation of such facilities. The work has been undertaken in consultation with a large cross-section of the UK's Offshore Operators, specialist contractors and independent verification bodies who provide corrosion services to the industry. The report from the work (published as OTO 2001 044 in the Offshore Technology Series) describes a general corrosion management system that provides a progressive framework compatible with the requirements of offshore safety management systems concerned with ensuring the integrity of topside processing equipment. The report focuses on hydrocarbon containment, but the good practices described are equally applicable to the management of non-hydrocarbon systems (e.g. water injection and produced water systems, deluge systems etc) as well as other business critical systems where loss of containment has detrimental impact on operation of the facility.

For further information contact:
Mr R Patel (0207 717 6924). email: raman.patel@hse.gsi.gov.uk

☐ EXAMPLES OF RECENTLY COMPLETED PROJECTS

☐ ANALYSIS AND EVALUATION OF DIFFERENT TYPES OF TEST SURROGATE USED IN DYNAMIC PERFORMANCE TESTING OF FALL-ARREST EQUIPMENT

(Contractor: Safety Squared)

Fall-arrest systems (FAS) are used by workers to protect themselves from the harmful effects of falling from height. FAS limit the gravitational plummet resulting from an accidental fall by decelerating and stopping the worker in a relatively short distance, hence the term 'fall-arrest'. Testing FAS to confirm the safety and performance of particular designs is an important part of the validation process, whether statutory, ethical, for research purposes, or in conformance with other requirements. Dynamic performance testing or 'drop testing' for example simulates an arrested fall by using a test surrogate in place of a human being and plays a central role in the assessment of FAS designs. Over the course of time (and on an international basis), different types of test surrogate have been used for different reasons and these have evolved in response to testing philosophy and experiences. The main problem posed by using test surrogates is that of understanding how the results would compare with the results of identical tests had they been carried out with an actual human being. Are the tests representative, and if so, to what degree? Does one type of surrogate produce more representative results than the other?

In excess of 120 articles, reports and research papers from various National, European and International sources have been studied during the course of this work and the results have been presented as a literature review, which draws conclusions and also presents directions and recommendations for further work. The characteristics between different types of test surrogate have been analysed and compared with regard to their relevance to drop testing, the type of test result they produce, what information can be derived, and the advantages, disadvantages and limitations of the type of test. Various interrelated issues have also been examined.

The report will be published shortly in the Contract Research Report series.

For further information contact:

Mr D Thomas (0161 952 8200). email: david.thomas@hse.gsi.gov.uk

☐ SAFE WORKING METHODS WITH TOP-HANDLED CHAINSAWS

(Contractor: Treevolution)

Along with regulatory authorities in other EU member states, HSE has had concerns about the safe use of top-handled chainsaws for some time. Their design differs from conventional chainsaws in that the rear handle is positioned on top of the machine, allowing the chainsaw to be used one-handed. HSE has expressed opinion that this design ignores one of the fundemental design aspects of conventional chainsaws, namely that they should be held with both hands when operated. One-handed use can result in the operator having less control over the chainsaw, and consequently the saw may skate, bounce or kick back on contact with the material being cut and may come into contact with the operator's free hand or arm if used incorrectly.

To date, HSE's policy in respect of these chainsaws has been: to provide input on their safe design through ISO EN Standard 11681-2 (1998); to restrict their use to competent, trained operators; and to confine their use to off-ground work. Additionally, the arboricultural and forestry industries have been active in promoting training in their correct use and have produced guidance in the form of FASTCo safety guides. Despite these efforts, accidents to trained, competent operators remain at unacceptably high levels.

Whilst ISO EN 11681-2 sets out instructions to operators, it does not provide detailed information on how operators need to position themselves when working from a rope or harness in order to maintain maximum control over the saw and minimise the risk of injury. The purpose of this project was to provide suitable, appropriate advice. The report (published as CRR 402/2001) identifies safe working methods for top-handled chainsaws for all those situations in which an arborist may expect to operate. In those exceptional circumstances, when one-handed use is desirable, the methods and techniques described in the report will enable work activities to be carried out with the minimum of risk of injury to operators.

For further information contact:

Mr N Craig (02476 696518). email: neil.craig@hse.gsi.gov.uk

☐ PROJECT LISTING

NEWLY COMMISSIONED PROJECTS: OCTOBER - DECEMBER 2001		
Project No.	**Project Title**	**Project Officer**
Engineering		
R33.102	Designing in safe practice for maintenance and repair: Good practice guide	Mr M Holden. Tel: 0151 951 3725 martin.holden@hse.gsi.gov.uk
Work Environment		
R41.121	Carbon Monoxide levels in commercial kitchens	Mr P Smith. Tel: 0141 275 3000 percy.smith@hse.gsi.gov.uk
R41.123	INTErSECT2 - Gas sensors collaboration	Mr A Griffin. Tel: 0151 951 4674 adrian.griffin@hse.gsi.gov.uk
R44.036	Video-visualisation of exposure to solvents and noise	Mr A Griffin. Tel: 0151 951 4674 adrian.griffin@hse.gsi.gov.uk
R45.074	Long term vibration dose for vehicle operators	Mr P Brereton. Tel: 0151 951 4824paul.brereton@hse.gsi.gov.uk
R45.075	Correlation between vibration emission and vibration during real use: Phase II - proposals for improved tests: Grinders	Mr P Brereton. Tel: 0151 951 4824 paul.brereton@hse.gsi.gov.uk
Occupational Health		
R51.229	The use and control of isocyanates by UK Industry	Mr J McAlinden. Tel: 0151 951 4525 john.mcalinden@hse.gsi.gov.uk
R51.233	Dermal absorption of solvents from liquid mixtures in vitro	Mrs E Ball. Tel: 0151 951 3400 elanor.ball@hse.gsi.gov.uk
R51.234	The role of occupational exposure limits in other EU Member States	Mrs S Wassell. Tel: 0207 717 6281 sara.wassell@hse.gsi.gov.uk
R51.235	Pilot of electronic COSHH Essentials: An expert system for the risk assessment and control of exposure to chemicals	Mrs J Cawte. Tel: 0207 717 6264 judy.cawte@hse.gsi.gov.uk
R53.188	Exposure of people to non-ionising radiation with regard to a possible EU proposal for a Directive on Optical Radiation	Mr N Smith. Tel: 0207 717 6277 norman.smith@hse.gsi.gov.uk
R54.081	Review of existing supporting scientific knowledge to underpin standards of good management practice for key work-related stressors (Phase 1)	Dr S Bristow. Tel: 0207 717 6987 stuart.bristow@hse.gsi.gov.uk
R54.086	Occupational analysis of the 2000 survey of psychiatric morbidity in Great Britain	Dr S Clarke. Tel: 0151 951 3832 simon.clarke@hse.gsi.gov.uk
Z54.086	Occupational analysis of the 2000 survey of psychiatric morbidity in Great Britain	Dr S Clarke. Tel: 0151 951 3832 simon.clarke@hse.gsi.gov.uk
R58.060	Evaluation of health and safety (First Aid) Regulations, ACoP and Guidance	Mr A Steele. Tel: 0207 717 6688 alastair.steele@hse.gsi.gov.uk
Behavioural and Social Sciences		
R63.061	Valuation of health and safety benefits - Dread risks	Mr R Broughton. Tel: 0207 717 richard.broughton@hse.gsi.gov.uk
R64.085	The role and effectiveness of safety representatives in influencing workplace health and safety performance	Mr J Price. Tel: 0207 717 6673 john.price@hse.gsi.gov.uk
R64.086	RISKGOV comparative analysis of risk governance systems	Dr R Foster. Tel: 0207 717 6962 robin.foster@hse.gsi.gov.uk
R67.156	Assessment of the implications for the safe operation of the national transmission system arising from operator incentives proposed by Ofgem	Mr A Turner. Tel: 01159 712800 andrew.turner@hse.gsi.gov.uk
R68.064	Identification of industry sectors in which employers perceive their business operates	Mr A St Clair. Tel: 0151 951 4453 alan.st.clair@hse.gsi.gov.uk
R68.069	Health and safety responsibilities of company directors and management board members	Mr N Stone. Tel: 0207 717 6484 neal.stone@hse.gsi.gov.uk
R68.073	Developing a framework for evaluating the Revitalising Health and Safety Strategy	Ms L McGuinness. Tel: 0207 717 6621 lorna.mcguinness@hse.gsi.gov.uk
Risk Assessment		
R72.070	Falls from height - Prevention and risk control effectiveness	Mr M Holden. Tel: 0151 951 3725 martin.holden@hse.gsi.gov.uk
R73.026	A centre for risk analysis and information - a	Mr D Rickwood. Tel: 0207 717 6671

	feasibility study	david.rickwood@hse.gsi.gov.uk
R74.010	2001 update - Pipeline and riser loss of containment database and report	Mr B McCullough. Tel: 0207 717 6922 bruce.mccullough@hse.gsi.gov.uk

☐ PROJECT LISTING

NEWLY COMMISSIONED PROJECTS: OCTOBER - DECEMBER 2001		
Project No.	**Project Title**	**Project Officer**
Offshore		
3972	Ship collision and capacity of brace members of fixed steel offshore platforms	Mr V Karthigeyan. Tel: 0207 717 6773 v.karthigeyan@hse.gsi.gov.uk
3975	FPSO fatigue capacity - Phase II	Mr R White. Tel: 0207 717 6782 robert.white@hse.gsi.gov.uk
3977	The relationship between depth, cognative function and metacognative awareness	Mr D Tee. Tel: 0207 717 6845 dave.tee@hse.gsi.gov.uk
3984	Investigation of bending fatigue in multi-strand rope over polymeric sheaves	Mr J Macfarlane. Tel: 0151 951 4796 jim.macfarlane@hse.gsi.gov.uk
3985	Investigation into crane wire rope failure - DSV Pelican	Mr J Macfarlane. Tel: 0151 951 4796jim.macfarlane@hse.gsi.gov.uk
3986	A benchmark study of various structural reliability analysis software	Mr C De Souza. Tel: 0207 717 6776 conrad.desouza@hse.gsi.gov.uk
3987	Evacuation from offshore installation by lifeboat	Mr B Ralph. Tel: 0207 717 6786 bill.ralph@hse.gsi.gov.uk
3988	Safety implications for offshore maintenance activities of using proprietary management or scheduling software	Mr B Miles. Tel: 0207 717 6685 bob.miles@hse.gsi.gov.uk
3989	Validation of the human factors capability model	Mr B Miles. Tel: 0207 717 6685 bob.miles@hse.gsi.gov.uk
3990	Diving examination system support and development	Mr D Tee. Tel: 0207 717 6845 dave.tee@hse.gsi.gov.uk

RECENTLY COMPLETED PROJECTS: OCTOBER - DECEMBER 2001		
Project No.	**Project Title**	**Project Officer**
Fire and Explosion		
R01.027	The ignition parameters of mists and sprays	Dr D Peacock. Tel: 0113 283 4200 don.peacock@hse.gsi.gov.uk
R03.028	Ignition of dusts by smouldering of flaming nests	Mr A Tyldesley. Tel: 0151 951 4769 alan.tyldesley@hse.gsi.gov.uk
R03.030	Test methods for ignition of dust clouds, electrical ignition sources.	Mr S Wright. Tel: 0151 951 4774 steve.td.wright@hse.gsi.gov.uk
Engineering		
R32.060	Agricultural tractor/trailer combination braking capacities	Mr R Brunt. Tel: 0121 607 6200 rick.brunt@hse.gsi.gov.uk
R32.070	Land pipelines state limit (structural reliability) based design, assessment methods and guidance	Mr B McCullough. Tel: 0207 717 6922 bruce.mccullough@hse.gsi.gov.uk
R32.078	Thorough examination and inspection of lifting equipment	Mr D Butterworth. Tel: 0151 951 3426 dave.butterworth@hse.gsi.gov.uk
R32.088	Piping systems integrity management review	Mr P Smith. Tel: 0151 951 3788 paul.smith@hse.gsi.gov.uk
R33.077	Investigation into the stability of stepladders	Mr D Thomas. Tel: 0161 952 8200 david.thomas@hse.gsi.gov.uk
R33.092	Evaluation of different types of test surrogate employed in the dynamic performance testing of fall arrest equipment	Mr D Thomas. Tel: 0161 952 8200 david.thomas@hse.gsi.gov.uk
R36.082	Safe working techniques with top handled chainsaws	Mr N Craig. Tel: 02476 696518 neil.craig@hse.gsi.gov.uk
R37.015	Guidance for selection/use/care/maintenance of electrical switchgear up to 3kV	Mr I McLean. Tel: 0151 951 4766 ian.mclean@hse.gsi.gov.uk
R38.031	Work-related risks from internet based safety related decision and control	Mr E Fergus. Tel: 0151 951 3415 ed.fergus@hse.gsi.gov.uk
Work Environment		
R43.072	Evaluation of alternative ventilation layouts/mine drivages	Mr B Leeming. Tel: 0114 291 2300 bob.leeming@hse.gsi.gov.uk

R48.112	INTErSECT Faraday Partnership	Dr P Walsh. Tel: 0114 289 2533 peter.walsh@hse.gsi.gov.uk
Occupational Health		
R51.103	Signal transduction, oxidative stress, cell proliferation	Mr M Ball. Tel: 0151 951 3512 martin.ball@hse.gsi.gov.uk

☐ PROJECT LISTING

RECENTLY COMPLETED PROJECTS: OCTOBER - DECEMBER 2001		
Project No.	**Project Title**	**Project Officer**
Occupational Health		
R51.187	Occupational hygiene review of carbon black	Ms C Northage. Tel: 0151 951 4464 christine.northage@hse.gsi.gov.uk
R52.118	Occupational significance of Borna Dissease	Mr J Neilson. Tel: 0207 717 6230 jim.neilson@hse.gsi.gov.uk
R55.076	Prevalence and causes of MSD of the upper limb and neck	Ms J Jones. Tel 0151 951 3819 jacky.hd.jones@hse.gsi.gov.uk
R55.089	Prevention of musculoskeletal disorders in cleaners	Ms N Hamilton. Tel: 0131 247 2000 nancy.hamilton@hse.gsi.gov.uk
Behavioural and Social Sciences		
R62.090	Market research: Perceptions of health and safety in the Czech republic	Mr P Rimmer. Tel: 0151 951 4045 peter.rimmer@hse.gsi.gov.uk
R67.134	Safe G Force levels for carrying passenger amusements	Mr G Howat. Tel:0141 275 3000 gavin.howat@hse.gsi.gov.uk
R67.139	Risk perception amongst farmers	Mr N Craig. Tel: 02476 696518 neil.craig@hse.gsi.gov.uk
R67.146	Communications and participation in the construction sector	Dr M Harrison. Tel: 0207 556 2100 mike.harrison@hse.gsi.gov.uk
R67.156	Assessment of implications for safe operation of the national transmission system arising from operator incentives proposed by Ofgem	Mr A Turner. Tel: 01159 712800 andrew.turner@hse.gsi.gov.uk
Risk Assessment		
R71.031	GIS applications in major hazard accident modelling	Ms H Balmforth. Tel: 0114 289 2642 helen.balmforth@hse.gsi.gov.uk
R74.005	Density current on slopes in opposing winds	Dr S Porter. Tel: 0151 951 4626 steve.porter@hse.gsi.gov.uk
R75.034	EU URAHFREP: Project management and support	Dr S Porter. Tel: 0151 951 4626 steve.porter@hse.gsi.gov.uk
R75.047	An experimental study of spreading liquid pools	Mr I Hirst. Tel: 0151 951 3526 ian.hirst@hse.gsi.gov.uk
R75.048	Development of a model for jet dispersion in a congested environment	Dr S Porter. Tel: 0151 951 4626 steve.porter@hse.gsi.gov.uk
R75.053	Flashing liquid jets and two-phase dispersion	Mr D Carter. Tel: 0151 951 4570 dave.hid.carter@hse.gsi.gov.uk
R76.007	Field trials: Dispersion of anhydrous hydrogen fluoride in the atmosphere	Dr S Porter. Tel: 0151 951 4626 steve.porter@hse.gsi.gov.uk
R76.008	Reduction of site risk by reduction of hazardous inventory	Mr D Allison. Tel: 0151 951 4133 david.allison@hse.gsi.gov.uk
R79.004	A study into the possible effects on health of the aircraft cabin environment	Mr G Henderson. Tel: 0207 717 6309 graeme.henderson@hse.gsi.gov.uk
Offshore		
3300	Assessment of fracture strength of cracked tubular joints	Mr A Stacey. Tel: 0207 717 6774 alexander.stacey@hse.gsi.gov.uk
3687	Cyclic pile load testing	Mr R Martland. Tel: 0151 951 3082 roland.martland@hse.gsi.gov.uk
3723	Helicopter side egress from ditching	Mr B Miles. Tel: 0207 717 6685 bob.miles@hse.gsi.gov.uk
3764	Demanning aspects of offshore platforms	Mr M Brearley. Tel: 0151 951 3140 martin.brearley@hse.gsi.gov.uk
3771	An energy concept for assessing the robustness of blast walls	Mr R Martland. Tel: 0151 951 3082 roland.martland@hse.gsi.gov.uk
3780	Review of management trends	Mr G Clark. Tel: 01603 828000 gordon.clark@hse.gsi.gov.uk
3813	Experimental validation of ultimate strength of	Mr A Stacey. Tel: 0207 717 6774

	cracked brace members	alexander.stacey@hse.gsi.gov.uk
3826	Review of corrosion management for offshore oil and gas processing	Mr R Patel. Tel: 0207 717 3924 raman.patel@hse.gsi.gov.uk
3833	Failure modes, reliability and integrity of FPSOs/FSUs swivel and turret system	Mr P Dua. Tel: 0207 717 6736 prem.dua@hse.gsi.gov.uk
3859	Rough weather rescue	Mr G Boothby. Tel: 0207 717 6921 george.boothby@hse.gsi.gov.uk

☐ PROJECT LISTING

RECENTLY COMPLETED PROJECTS: OCTOBER - DECEMBER 2001		
Project No.	**Project Title**	**Project Officer**
Offshore		
3924	Internet based human factors resource for HSE inspectors	Mr B Miles. Tel: 0207 717 6685 bob.miles@hse.gsi.gov.uk
3961	Completion component reliability - failure mode identification	Mr G Thomson. Tel: 01224 252500 gordon.thomson@hse.gsi.gov.uk
3979	Completion component reliability	Mr G Thomson. Tel: 01224 252500 gordon.thomson@hse.gsi.gov.uk

☐ RECENT PUBLICATIONS

Series No.	**Contract Research Report/Offshore Technology Report: Title**
OTO 2000 066	Extreme environmental load statistics in UK waters
OTO 2000 088	Modelling failure of welded connections to corrugated panel structures under blast loading
OTO 2000 108	Multivariate analysis of injuries data
OTO 2001 022	Weather - sensitive offshore and metocean data
OTO 2001 053	Preventing the propagation of error and misplaced reliance on faulty systems
OTO 2001 055	Hydrocarbon release reduction campaign. Report on the release incident.
OTO 2001 058	A study of circulation in the Northwest Approaches region
OTO 2001 072	Helideck structural requirements
OTO 2001 074	Deterioration and spalling of high strength concrete under fire
CRR 338	Calculation of input data importances for toxic release risk assessments: Gastar/Crunch
CRR 369	Trials of a Blackpool table decompression with oxygen as the breathing gas
CRR 370	Performance tests for stranded ground reinforcement systems in mines
CRR 371	Symptom reporting following occupational exposure to organophosphate pesticides in sheep dip
CRR 372	Assessment of measures in use for gas pipelines to mitigate against damages caused by third party activity
CRR 373	Proposed framework for addressing human factors for IEC 61508
CRR 374	JIP on CO: A review of CO incident information for 1996/7.
CRR 375	JIP on CO: A review of CO incident information for 1997/8.
CRR 376	JIP on CO: A review of CO incident information for 1998/9.
CRR 377	JIP on CO: A review of the emergency response process related to CO/fumes incidents
CRR 378	JIP on CO: A market survey of portable CO detection equipment
CRR 379	JIP on CO: Effects of ventilator size/location on operation of open flued gas boilers when operated in a compartment
CRR 380	JIP on CO: Interaction between air extraction equipment and open flued - Phase 1
CRR 381	JIP on CO: Interaction between air extraction equipment and open flued - Phase 2
CRR 382	JIP on CO: The siting of domestic CO alarms. Analysis of full scale vitiation tests
CRR 383	JIP on CO: Analysis of data to assess factors affecting vitiation associated with gas appliances
CRR 384	JIP on CO: Vitiation studies of an open-flued central heating boiler operated in compartments
CRR 385	The impact of the HSC/E: A review
CRR 386	Reducing carbon monoxide (CO) incidents
CRR 387	Improving health and safety in construction - Phase 1
CRR 389	Working with local intermediaries: Evaluation of a pilot project
CRR 390	The effectiveness of labelling of pesticide
CRR 391	Establishing effective communications and participation in the construction sector
CRR 392	Identification and management of risk in undergraduate construction courses
CRR 393	Effective team working: Reducing the psychosocial risks
CRR 395	Assessing of aprons for the protection against drop forging projectiles
CRR 396	A model for jet dispersion in a congested environment
CRR 397	Doses to the embryo/foetus and neonates from intakes of radionuclides by the mother. Part 1: Doses received in utero and from activity present at birth
CRR 398	Probabilistic methods: Uses and abuses of structural integrity
CRR 399	Development of the local lymph node assay for risk assessment of chemicals and formulations