

Innovation & Research



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A feedback system for clients and the industry

In essence, feedback is about feeding knowledge of outputs back into inputs to improve outcomes. Generally, most designers and builders do not obtain it routinely. They move on as soon as the product is handed over and only come back if they are asked to investigate a failure. Consequently, problems recur, innovations miss their targets, and successes can go unrecognised. Even the 'rethinking construction' agenda has tended to focus much more on process than product – at least until recently.



The performance of the greater London authority building as a workplace has been reviewed using the AMA Workware toolkit, one of the techniques in the Feedback Portfolio

Given these findings, the focus of the project moved from the client to making feedback a routine process for design and building teams, so giving immediate benefit to the project concerned.

To reduce entry barriers, a pick-and-mix portfolio of techniques was developed covering different aspects, including occupant satisfaction, design quality, technical and environmental performance, and unlocking past experience. In 2003, a user group of twelve firms tested these in pilot trials at various stages of their ongoing projects (e.g. preparing, designing, building, completing, in use and before and after making changes). Their experiences were largely positive and confirmed the value that simple, effective feedback techniques can add.

To promote the cause of feedback, the Usable Buildings Trust – a new charity – has taken over the products of this project and is committed to supporting and developing them. Its website – www.usablebuildings.co.uk – includes the portfolios of techniques and results, with links to further information and to people who can help.

For further information please contact Bill Bordass, Confederation of Construction Clients (020 7722 2630; E-mail billbordass@aol.com).



A newly-completed DTI Partners in Innovation project initiated by the Confederation of Construction Clients and led by William Bordass Associates has been seeking ways of closing the feedback loop. Initial surveys and discussions revealed that many clients:

- were interested in the benefits of better feedback, but not the details;
- lacked confidence in the value of feedback techniques and feared that results would not be used effectively, as knowledge management systems were poorly developed;
- regarded post-occupancy evaluation as too academic and too late in the process, preferring to undertake feedback throughout the life cycle of a building and of a project; and
- did not see why they should pay for better feedback, querying why it was not part of the industry's standard offering?

IRF Sponsors would like your views

The sponsors of IRF are keen to hear what you think of Innovation and Research Focus and how you use it and the associated website. Please turn to the back page of this issue and send in your views using the faxback form there. We look forward very much to hearing from you.



Managing water pollution from small-scale industries in Bangladesh

Industrial growth in Bangladesh has brought numerous benefits but also a range of problems, including pollution of water resources, which impact heavily on ecosystems and the livelihoods of resource users. The Stockholm Environment Institute, the University of Leeds and the Bangladesh Centre for Advanced Studies are looking at ways of reducing pollution, using a collaborative approach with textile industries that includes pollution reduction, environmental clean-up and informal regulation.



The beel (low lying lake) and inset a sample of beel water

Pollution generated by tens of thousands of small and medium scale enterprises in Bangladesh is threatening many ecosystems and associated livelihoods. Analyses of water samples indicate that pollution is extensive. Dissolved oxygen levels reach zero in places, and pH, biological oxygen demand, chemical oxygen demand and sulphide levels all greatly exceed national standards.

The project team is working to tackle the causes and effects of pollution by implementing in collaboration with industry production and effluent treatment processes changes.

Cleaner Production – Textile process analysis suggests that simple changes, including measuring correct dye quantities and monitoring the dyeing temperature-time profile, can improve efficiency and reduce pollution, potentially saving industry tens of thousands of pounds a year.

A material balance procedure for the dye process to determine likely levels of un-utilised inputs discharged by the factories is also being developed with the intention that it be used by industry and the Bangladesh government to estimate industrial pollution loads without the need for expensive water quality analysis.

Effluent Treatment – The researchers are working to improve effluent treatment by providing technical support for effluent treatment plants and identifying more cost-effective ways to treat residual pollutants.

Other important players – The team is working with buyers and accreditation organisations to secure incentives such as eco-labelling for the industries that collaborate on the work.

Wider relevance of the work – The industrial development in Bangladesh follows that of other countries in South Asia. Industrial water pollution is therefore not unique to Bangladesh, so the approach is likely to be transferable elsewhere in the region.

For further information please contact
Matthew Chadwick, Stockholm Environment
Institute – York, University of York, YO10

5DD (01904 434409;
Email: mc38@york.ac.uk)

MATERIALS AND HIGHWAYS

Innovative characterisation of pavement foundation materials



The drive towards sustainable construction and Government policies such as the Aggregate Levy and Landfill Tax mean the incentive to use 'fit for purpose materials', regardless of source, is growing. 'Recipe and method' specifications have long been a barrier to innovation, including the use of alternative materials within pavement foundation designs. Progressive moves towards the use of 'performance-related' specifications, complimented by the implementation of European Standards for aggregates, have meant the requirement for suitable site and laboratory test methods to characterise materials with regard to their actual performance within pavement layers, regardless of source.

In-situ test devices such as the Falling Weight Deflectometer are well established as on-site material performance related tests. Equivalent laboratory-based tests currently range from complex, research-orientated equipment (such as large diameter triaxial apparatus) to simple tests that do not directly measure key material performance properties (such as CBR).

Scott Wilson Pavement Engineering (SWPE) are working on two Highways Agency-funded projects aiming to fill the identified gap for suitable laboratory testing procedures and equipment.

The first project identified resilient modulus and permanent deformation as being key material performance properties to be determined, both for input into new design procedures and for assessing potential constructability. Laboratory trials led to the development of a variably confined test for unbound-to-weak, hydraulically-bound materials (with facilities to allow specimens to cure). This uses the widely available standard Nottingham Asphalt Tester (NAT) as a loading and control mechanism, with software developed by Coopers Research Technology Limited (manufacturers of the NAT).

The second project involves collaboration between SWPE, Loughborough University and Birmingham University. It concentrates on the characterisation of capping and sub-grade materials utilising pre-existing laboratory test methods. Specific areas of research have included repeated load triaxial testing, sample preparation developments for stabilised soils, and large-scale box tests.

Part of the funding is via the EPSRC EngDoc scheme based at Loughborough University's Centre for Innovation Construction Engineering (www.cice.lboro.ac.uk).

For further information please contact Robert Armitage at SWPE (0115 9229098, E-mail: Robert.armitage@scottwilson.com, www.swpe.co.uk) or Dr Paul Fleming at CICE (01509 228549; E-mail: j.c.brewin@lboro.ac.uk).



'Springbox' testing at CICE

The challenge of access for disabled people



Most architects and engineers will be aware that new legislation coming into effect in October 2004 means that access for disabled people will need to be a key element of the design of new and refurbished buildings and facilities. Discriminating against disabled people by not making reasonable physical adjustments to non-domestic premises could lead to litigation under the Disability Discrimination Act (Part III).

CIRIA's new publication, *Buildings for all to use 2*, incorporates many sources of information (including Part M of the Building Regulations and BS 8300). It gives a strategic, pragmatic approach to help designers find the best solutions for existing facilities, and owners and operators to manage them to maintain the best results. The project was funded by the DTI Partners in Innovation Scheme, industry and CIRIA members and the work was carried out by the Research Group for Inclusive Environments at the University of Reading and Buro Happold.



Manchester Piccadilly – an award-winning development, which transformed the station into a world-class travel facility.

Case studies are used to show how inclusive access was achieved on a variety of challenging projects, including Manchester Piccadilly station (prepared by Buro Happold).

Key points include:

- **materials selection:** this can define pedestrian routes using tone and texture internally and externally;

- **level access:** rather than incorporating ramps into a design, it is better to avoid changes in level entirely;
- **acoustics:** especially important in large spaces such as concourses where people need to get information, because people with visual impairments often use reflect-

ed sound to gain information about the space, and those with hearing impairments can find the level of reverberation of background noise critical;

- **lighting:** control of shadows and glare can avoid confusion
- **details:** finishing touches such as best practice signage schemes and colour and contrast on doors and handrails can have a big impact on usability.

Buildings for all to use 2 – guidance for improving the accessibility of existing buildings is available at the special offer price of £48 until

September 2004 (full non-member price £96).

For further information visit www.ciria-books.com or contact CIRIA (020 7549 3300; fax 020 7253 0523; E-mail: irf@ciria.org)

STRUCTURES & BUILDINGS

Concrete fire study published

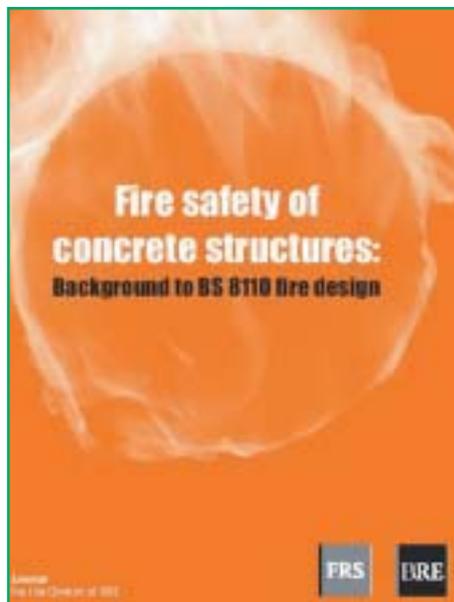


A BRE report, *Fire Safety of Concrete Structures: Background to BS8110 Fire Design (1)*, ensures that important lessons from the past are recorded and helps to define the strategy for a new generation of codes and standards.

The study investigated the background to methods for establishing the fire resistance of concrete structures specified to BS8110. In particular, BRE has examined and revisited the original research and test results that underpin the tabulated data.

The BRE research brings together a body of information that covers test results and research carried out over a number of years. With the passing of time there was a danger that much of the important work supporting the development of codes and standards could have been lost. There was a need to collate and assess all relevant information to ensure that the important lessons from the past are recorded, and are then used to help define the strategy for a new generation of codes and standards.

The research team found that the experimental results used as data for developing the tabulated approach in BS8110 fully supported the provisions of the code in relation to assumed periods of fire resistance. Furthermore, the research found that these



provisions are in many cases conservative, as they are based on the assumption that structural elements are fully stressed at the fire limit state and takes into account the spalling characteristics of some concrete mixes.

Not only does the BRE Report clearly demonstrate that evidence from performance in real fires over a number of years proves that the tabular approach has been effective, it also suggests that the conservatism of the existing data means that further research would potentially result in even greater construction and cost economies for concrete structures.

Ref 1: Lennon T, *Fire safety of concrete structures: Background to BS 8110 Fire Design*, published by CRC Ltd, May 2004.

For further information, contact Dr Pal Chana at BCA (01276 608700; E-mail: pchana@bca.org.uk) or Ms Anna Scothern at the Concrete Centre (01276 606800; E-mail: ascothern@concretecentre.com).

Office fit-out guide

The British Council for Offices (BCO) has recently published its *Office Fit-out Guide* to complement its well-known *BCO Guide 2000 – Best practice in the specification of offices*. The new guide is intended to carry on where the BCO Guide 2000 leaves off and to provide advice on how to fit-out an office to suit the business needs of the end-user organisation.



The guide was produced by a process of distillation of the best practice advice compiled by five working groups of BCO members, who are leading practitioners in the fit-out industry. The project was part-funded by the Department of Trade and Industry through its Partners in Innovation scheme, in partnership with Battle McCarthy, FourProjects, Gensler Architects, Interior and Sheppard Robson. The guide challenges the assumption that better design costs more money and suggests that a value-for-money approach should be used.

This project ensures that the client organisation is provided with a building that fulfils their business needs and adequately expresses their image and corporate identity. Until now, there has been no common discussion framework for clients and consultants to help them through a fit-out project. The aim of the guide is to provide building clients with a good background to fit-out issues and to aid clients to ask the right questions of themselves, their in-house project team and their consultants and contractors.

The pre-project stages examine the client's needs taking into account factors that would help with the work-life balance, resulting in retaining a good-quality, motivated workforce.

Design issues are addressed in some detail, with general guidance being given on types of materials and sustainability issues. Consideration is also given at the design stage to on-going running and maintenance costs.

The guide is liberally illustrated with colour photographs of fit-out designs to cover the whole gamut of business needs and work styles.

A major fit-out project is a complex task

that many client representatives will only have to address once or twice in their working lives. The guide aims to lead them gently through the process in order to eventually answer the one key question:

Q So what makes a good fit-out?

STRUCTURES

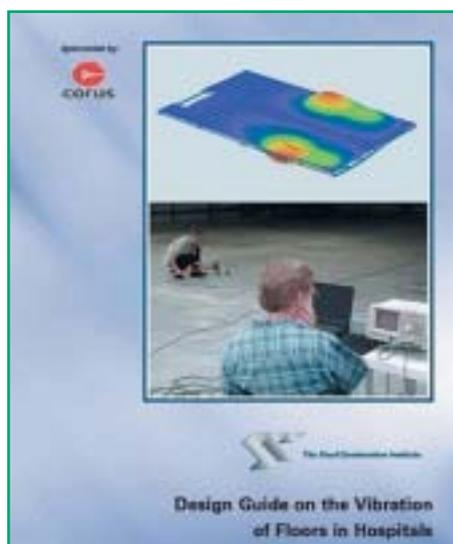
Vibration of floors in hospitals

Design guidance on the vibration of floors in hospitals presents guidance on the use of uniform composite floors using hot rolled steel sections. It is based on research and measurements in hospital buildings.

A simple design procedure sets out how to calculate the floor acceleration, to weight it to reflect human perception, and to then compare it with the strict acceptance levels in the NHS performance standard for hospitals, *Health Technical Memorandum 2045*. A fully worked example is given.

The guide is published by the SCI and sponsored by Corus C&I. Prices are: SCI Corporate Members £25, non-members £12.50 (plus p+p) Order online at www.shop.steel-biz.org or phone 01344 623345.

For further information please contact: Dr Stephen Hicks, The Steel Construction Institute (01344 623345; E-mail: s.hicks@steel-sci.com).



A One that balances the current and future-needs of the business at an affordable price.

For further information please contact Ian Selby, BCO, 38 Lombard Street, London, EC3V 9BS (020 7283 4588; E-mail: ian.selby@bco.org.uk).

FLOOD RISK MANAGEMENT

FLOODsite: improving flood management

HR Wallingford is coordinating FLOODsite, one of the first new-style 'Integrated Projects' funded through the EC 6th Framework Programme.

Integrated Projects cover areas of science and technology research previously commissioned through several smaller projects. FLOODsite (the acronym for 'Integrated Flood Risk Analysis and Management Methodologies') is organised as a Consortium comprising 36 partners from 13 countries, with €10 million in funding from the EC. Its objective is to provide a holistic approach to flood risk analysis and management, covering river, estuarine and coastal flooding.

FLOODsite will consider the whole time spectrum, from operational management to strategic planning and will deliver:

- an integrated European methodology for flood risk analysis and management;
- a consistent approach to the whole system (considering natural hazards, ecology, socio-economic and cultural factors);
- a consistent approach towards flooding from rivers, estuaries and the sea;
- a framework for integrated flood risk management;
- links with other EC and national research (such as that organised through the EPSRC Flood Risk Management Research Consortium).

In addition to providing data, methods and procedures that can be used Europe-wide, FLOODsite aims to promote cooperation and mobility amongst scientists, improving access to research infrastructure and training.

For further information, please visit the FLOODsite website: www.floodsite.net or contact the FLOODsite project administrator (01491 835381; E-mail: floodsite@hrwallingford.co.uk)



Flood Risk Management Research Consortium



The EPSRC is collaborating with the Defra/EA joint R&D programme on Flood and Coastal Defence, UKWIR, NERC and the Scottish Executive to fund a £5.7 million research initiative on the prediction and management of flood risk.



The Flood Risk Management Research Consortium (FRMRC) aims to combine the strengths of 'blue sky' and near-market research philosophies. The work is organised around eight priority areas that emerged from a series of EPSRC Flooding Research Workshops during 2002:

- land use management (to be led by Professor Howard Wheeler, Imperial College, London);
- real-time forecasting (Professor Ian Cluckie, University of Bristol);
- infrastructure management (Paul Sayers, HR Wallingford);
- whole systems modelling (Professor Gareth Pender, Heriot Watt University);
- urban flood management (Professor Adrian Saul, University of Sheffield);
- stakeholders and policy (Dr Joe Howe, University of Manchester);
- morphology and habitats (Professor Colin Thorne, University of Nottingham);
- risk and uncertainty (Professor Keith Beven, Lancaster University).

Key themes of the FRMRC are 'working together' and 'working holistically'. This approach allows research to cross-link with other UK and European initiatives – such as FLOODsite. Outputs will include:

- short-term delivery of tools and/or techniques to support more-accurate flood forecasting and warning, improvements to flood management infrastructure, and reduction of flood risk to people, property and the environment;
- establishment of a high-quality science programme to enhance understanding of

flooding and develop sustainable flood management strategies.

Dr Stephen Huntington of HR Wallingford is supporting the project as Project Manager.

The research will be informed and strengthened by findings from initiatives such as the DTT's Foresight programme (The Foresight Future Flooding report was published in April 2004 and looks 30 to 100 years ahead) and the results will help to provide new ways of predicting and managing

floods. The widespread and collaborative nature of the work will help researchers and users develop and adopt a common language and understanding for the management of flood risk and the inherent uncertainties that have to be accommodated – truly a significant move towards integration.

For further information please contact Dr Stephen Huntington (01491 822396; E-mail: swh@hrwallingford.co.uk)

Conveyance estimation: the key to flood management



Effective river flood management hinges on the accurate estimation of how much flow watercourses are carrying. HR Wallingford Group has just completed a new Conveyance Estimation System (CES) that will be of interest to those involved in the design, planning and/or maintenance of river channels as well as to flood forecasters and researchers.

The CES has been developed under the joint Defra/EA research programme, with input from both the Scottish Executive and the Northern Ireland Rivers Agency. It is a new software tool that allows users to estimate river bed and floodplain roughness (including seasonal effects on vegetation growth), and to generate more accurate rating curves for channel conveyance. Another novel feature is the inclusion of an 'uncertainty estimator', which provides upper and lower bands for the stage-discharge relationship.

The software will be available in three formats:

- a stand-alone application for simple types

of conveyance assessment;

- incorporated into the flow modelling packages ISIS and InfoWorks RS (and potentially others);
- as source code allowing further research.

Supporting documentation includes a Conveyance Manual.

For further information visit the project website www.river-conveyance.net. Alternatively, please contact Manuela Escarameia at HR Wallingford (01491 822337, email: mme@hrwallingford.co.uk) or Wallingford Software Technical Services (01491 822440, email: support@wallingfordsoftware.com).

(Above) Flooding – an understanding of conveyance helps effective management

Rapid joining of structurally insulated panels



With support from the ICE R&D enabling Fund, Geodome Ltd has developed a new method for rapid erection of modular buildings from 'Structural Insulated Panels' (SIP), equipped with a 'Rapid Panel Jointing System' (RPJS).

The new assembly method, demonstrated by construction of a 6.0m diameter prototype Modular-Composite-Geodesic-Dome (MCGD) – see illustration – comprises an assembly of 32 panels, made from GRP skins with Polystyrene cores and bonded Alloy edge extrusions.

The fundamental concept of the RPJS-SIP is one of spreading loads along adjacent panel edges and thereby reducing joint loads. In turn, this leads to a stressed-skin construction, which reduces local stress concentrations and results in a high strength-to-weight ratio of the panel. Additionally, in some applications, the method enables frameless construction methods, which can significantly reduce costs and eliminate some secondary structural elements of a building.

Adjoining panels are joined by means of rotating clamps along the entire length of their edges. The hinged clamps have a teardrop tip geometry, which transfer both shear and moment loads. Panel joining is initially made by means of a simple spring-loaded action followed by turning a detachable handle for final locking of the joint.

The development project, initially funded by DTI 'SMART' and later by the ICE R&D Enabling Fund, with support by Kingston University, has enabled both computational FE modelling and experimental research of the RPJS. This work led to a better understanding of the constraints and limitations of an off-site manufactured building as well as the development of a family of joints to cater for various geometries and loadings.

The SIP-RPJS method is suitable for multiple building forms including rectangular and curved building parts, where a requirement exists for load bearing capacity, such as floor or roof panels, and with rapid assembly, demount-ability and high strength-to-weight ratio of insulated panels.



RPJS in open position with section of composite panel

For further information please contact
Dr. David Aviram of Geodome (020

82557572; E-mail
davidaviram@geodome.co.uk)

KNOWLEDGE MANAGEMENT

Knowledge management: Learning from North American practices



A structured approach to managing knowledge is of increasing importance for construction organisations, given the focus on issue such as improving performance, competitiveness, innovation, and responding to clients' needs. A previous UK study identified the main drivers for investing in knowledge management as disseminating best practice, retention of key employees' tacit knowledge and promoting continuous improvement. Several UK engineering and construction organisations have appointed Knowledge Managers to champion the subject, including Amec, Arup, Atkins, Balfour Beatty, Bovis Lend Lease, Cyril Sweett, EC Harris, Halcrow, MWH, and Turner Townsend. Championing knowledge management is relatively new and these companies are keen to investigate other organisations' activities both within and external to the sector.

A Global Research Award funded by the UK's Royal Academy of Engineering has sponsored a project aimed at transferring the lessons learnt in implementing knowledge management practices from successful North American companies to UK construction engineering companies. This involved interviews with North American Knowledge Managers covering the following themes:

- company background;
- awareness of KM;
- KM strategy and implementation;
- people aspects of KM, especially how they gain employee buy-in; and
- metrics for KM performance.

Eleven of Canada's largest oil and gas companies, and eight engineering, procurement and construction (EPC) companies employed by the oil and gas sector, were investigated. North American companies were selected because they are more mature in terms of managing their knowledge than European companies. In addition, North American companies dominate



A typical North American project from which knowledge management lessons can be learned.

finalists the annual MAKE (Most Admired Knowledge Enterprises) competition.

The lessons that can be learnt from these companies include how knowledge problems are identified, the level of resources used, the mechanisms adopted for sharing tacit knowledge, the mix of hard and soft metrics used, and

their approach to identifying lessons learnt.

The final stage of the investigation, in summer 2004, will involve US EPC companies to provide additional insight into the approach adopted.

The study has led to increased collaboration with CIRIA and complements their work, namely the recently completed study *Benchmarking knowledge management practice in construction* and the current *Business Case for Knowledge Management*.

For further information please contact Dr Patricia Carrillo, Department of Civil and Building Engineering, Loughborough University. (01509 222634; Fax: 01509 223981; E-mail: P.M.Carrillo@lboro.ac.uk).

Safety of cladding and glazing

The safety culture in the construction industry is having an impact on the design and construction of building envelopes. Two related, research-based publications are due out in the next 12 months.



Installing a curtain wall

The construction, maintenance, repair and de-construction of facades invariably require operatives to spend some time working at height – a major cause of accidents.

Safety can be improved by reducing the time a person has to work at height. This can be achieved by the use of pre-assembled cladding systems such as unitised and panelised construction, instead of the 'stick construction' favoured in the UK. This change would also reduce the amount of time spent working at height by scaffolders.

Working at height can be made safer by provision of suitable means of access, particularly for maintenance. The geometry of many buildings is such that safe access to parts of the building envelope is only possible if suitable means of access are provided at the outset. A guide to good practice is being produced that will enable building professionals to procure and design buildings with facades that are safer to construct, operate, maintain, repair and deconstruct.

This project, which is funded under the DTi PII scheme, is nearing completion and due to be published in Autumn 2004. CWCT, working in conjunction with Independent Building Technology Ltd, is also writing 'Glazing at height', to be published by CIRIA.

Large areas of glazing at height are increasingly a feature of modern architecture and, as the demands on glazing have increased, those involved in glass design and procurement face an array of glass configurations to choose from and various dilemmas in the final selection.

Information to guide designers and clients is being assembled and a risk assessment methodology developed to assist decision-making. The objective of the project is to produce guides for designers and clients, with publication planned for early 2005.

For further information please contact Alan Keiller, at CWCT, (01225 386541; fax 01225 386556; E-mail cwct@bath.ac.uk)

HEALTH & SAFETY, & IT

HSE research goes online

The SCI has designed and implemented an online Research Projects Directory of all the onshore and offshore projects in the Health & Safety Executive's research project portfolio at <http://www.hseresearchprojects.com/ProjectSearch.aspx>. This provides user friendly and intuitive access to the background database of research projects.

The HSE sponsors a large programme of health and safety related research. Historically, details of this research programme were published as paper handbooks. The Research Projects Directory was commissioned following the success and popularity of the on-line Offshore Project Handbook (also developed and hosted by the SCI).

The new Directory contains details of over 1,000 HSE-commissioned research projects. In preparing the data for on-line publication the SCI also aided the HSE in updating its information on existing research projects.

The HSE Research Projects Directory boasts some powerful features that maximise the benefits to users and make it easy to maintain by non-IT administrators.

- advanced search of Project Records by HSE Division, Strategic Block, Research Category, Completion Year and free-text;
- ability to select projects to generate reports, which can be e-mailed to users;
- a discussion forum enabling users to add comments and reviews of projects;
- direct links to associated resources including HSE reports;
- an on-line authoring tool for preparation of new Project Records;
- on-line approval routing and strategic management tools;
- restricted access to authoring and administration tools through password protection;
- logging of all user activity and administration facilities to enable the generation of detailed usage statistics.

For further information please contact Chris Selby, The Steel Construction Institute, (01344 623345; E-mail: c.selby@steel-sci.com)



Solar shading

Avoiding overheating due to solar radiation is a key design requirement to minimise the use of mechanical cooling and to reduce the energy consumption of cooling systems. DEFRA figures indicate that, on a 'business as usual' scenario, the use of electricity for comfort cooling will rise fourfold by 2020, which is clearly not a sustainable level of growth.

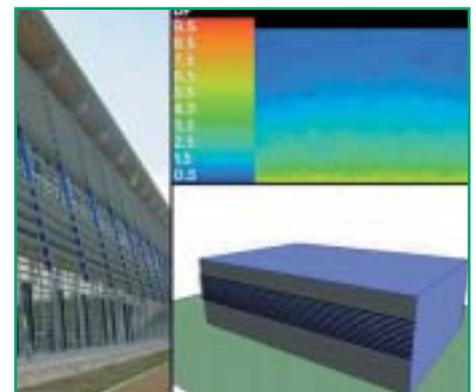
Changes in April 2002 in Part L2 of the Building Regulations therefore introduced, for the first time, a requirement to 'limit exposure to solar overheating' in non-domestic buildings. The requirement applies to new buildings, extensions, and to some changes to existing buildings, for example replacement of the façade.

Approved Document L2 gives some guidance on how to comply with this requirement, which applies whether the space is naturally ventilated or has mechanical ventilation or cooling. This is intended to avoid retrofitting of cooling systems in naturally ventilated buildings that overheat.

A project to address these issues is being carried out by partners CIBSE (who take the lead), BRE, FaberMaunsell and the British Blind and Shutter Association, partly funded by DTI through the Partners in Innovation scheme. The aim is to produce more-detailed guidance that will address interactions between shading, lighting and glare, and the relationship between solar gain, thermal performance and energy use. The work will also provide a basis for addressing any changes to the requirements that may be introduced in the 2005 revision of Part L2.

This guidance will initially be available as a consultation document in late summer 2004, with the full publication expected early in 2005. Both will be accessible via CIBSE's website at www.cibse.org.

For further information contact Dr Hywel Davies at CIBSE (01234 351269; E-mail hdavies@cibse.org).



Modelling the effectiveness of external shading (Photo courtesy of BRE & Faber Maunsell)

IRF SPONSORS WOULD LIKE YOUR VIEWS PLEASE

Dear Reader The Sponsors of *Innovation & Research Focus* would like to hear your views on IRF and its associated website. Please answer the questions below and fax the original or a photocopy of it to Kathleen Hollow at the Institution of Civil Engineers on 0207 665 2294. There's no prize for the best/quickest/wittiest/most useful response, I'm afraid, just the satisfaction of helping to make the service better.

Please add in your responses in the spaces provided or circle the appropriate option. We look forward to hearing from you – Roger Venables, IRF Editor

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If yes, how many times do you go to the website? **daily / weekly / occasionally**

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How would you react if the printed version were stopped and only the website version were published? Please ring all responses that apply.

a extreme disappointment / disappointed / neutral / content / very content that less printed material gets to my desk / other

b would not go to the website instead / would prefer to use the website / would not miss the printed version

Any other comments?

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Website: www.dti.gov.uk
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Department for International Development

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(020 7023 7000; fax: 020 7023 0072)
Website: www.dfid.gov.uk
E-mail: enquiry@dfid.gov.uk

RESEARCH ORGANISATIONS

British Cement Association

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Website: www.cementindustry.co.uk
E-mail: CClear@bca.org.uk

Centre for Innovative Construction Engineering

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Royal Academy of Engineering

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INDUSTRY

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Geotechnical Consulting Group
Mott MacDonald Group Ltd
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For an introduction to IRF see previous issues on the website. The editor, Roger Venables, can be contacted at irf@venablesconsultancy.co.uk

CONTRACTS AND MANAGEMENT

A study in serial partnering



From 1 April 2000, the previous requirement for Compulsory Competitive Tendering was removed under the Local Government Act 1999 and was replaced with a requirement to obtain 'Best Value'. Authorities could thus adopt innovative ways of getting work done, provided, of course, that they could demonstrate Best Value – preferably through hard, quantitative data.

In 2000 North Tyneside Council entered a partnering agreement with three contractors (Gordon Durham, Ballast Ltd – now Rok Property Solutions Ltd – and the North Tyneside Construction Group) to implement part of its building programme over four years.

The University of Northumbria facilitated the partnering process with a number of workshops and the final stage was the agreement and completion of a Partnering Charter. The University was also asked to carry out research to monitor the success of NTPA.

The final report is due to be published in the summer of 2004. It will explain the process of forming the partnership, give its results and

offer good practice guidance for local authorities that intend to enter strategic partnering.

The conclusions are that, in general, strategic partnering appears to have a bright future. The focus will no longer be specifically on current indicators, such as cost or time certainty, but on 'adding value'. Strategic partnering, appears to be an ideal vehicle for achieving this.

For further information about the project and Report, please contact Dr. David Greenwood, School of the Built Environment, University of Northumbria, Newcastle-upon-Tyne, NE1 8ST (0191-227-4691; fax 0191-227-4691; E-mail david.greenwood@unn.ac.uk).