

## *Report on Midlands Construction Design and Management Forum*

We had a very encouraging response to the Midlands CDM Forum, with over 250 people attending. In addition to a very response from the Midlands, it attracted delegates from as far a field as, Cumbria, Yorkshire, Norfolk, Essex, London, Hampshire and South Wales. Commenting on this, **Gerry Mulholland, BHSEA Construction Section Chairman**, said that combination of this significant new legislation and the team of high-profile speakers with such a wide range and depth of practical experience undoubtedly had a strong appeal. It was also gratifying, he added, that the delegates comprised not only safety professional, but also Architects, Directors, Client Groups, Designers, Universities and consultants. This major event was organised with the active involvement of Richard Lockwood, HM Principal Inspector, HSE Construction Division and the presence of seven HM Inspectors and support staff on the day.

The Forum was opened by **Joy Jones, Head of Operations for the HSE Construction Group**, for the Midlands, South West and South Wales, who stated that the HSE had to achieve a careful balance, between critics who bemoaned the “elf and safety”, “nanny stateism” on the one hand and those who argued that the HSE enforcement policy was not robust enough, on the other.

But, Joy added that the continuing, unacceptable death toll was the overriding challenge that the Construction Industry had to face and this was the motivation for the 2007 CDM Regulations. The new Regulations had learned from the 1994 Regulations and gave the Industry a golden opportunity to get the practical issues right, instead of being pre-occupied with paperwork!

Joy went on to say that the Safety scene was set by the Client Group and that HSE had been working with them, particularly Government clients, to ensure that they exert a positive influence on standards throughout the industry. She added that the value of integrated teams achieving better, cheaper projects on time had long been recognised and this approach was the fundamental principle behind CDM. Another crucial role was that of designers who, it had been recognised, were slow to address the challenges of CDM 1994. Thankfully, over the last five years, a real change had been achieved and that momentum needed to be maintained to eliminate hazards at the design stage.

Joy also remarked about the vital need to address the issue of Competence in the supply chain, to obtain meaningful risk reduction, instead of indulging in futile bureaucracy. Closely allied to this was the question of worker involvement for effective and meaningful participation in reduction of risk. She commented that in 20+ years of inspections and accident investigations, she had never come across a worker whose views and ideas about making work safer had been properly captured and used to reduce risk. This is a scandalous waste of a resource, not to involve workers properly in decisions about their own safety, when it is they who have to face the results of poorly planned and executed work.

Joy concluded that she felt a personal involvement because she came from a 'construction' family and hoped that everyone in the room today could "make a difference".

The keynote presentation was made by **Andrew East, HSE CDM Delivery Manager** and his title laid down the challenge, "**CDM 2007 Making a Difference, Will You?**"

His starting point was this, this year there were approximately **70 Fatalities** and the trend was rising! On top of that there were about **13,000 serious accidents** and, worryingly, some **1,000** or so went unreported. There were also a large number of work-related illnesses in the industry, comprising **70,000 Musculo-skeletal Disorders**, **15,000 Respiratory** complaints, plus **6,000 Skin** disorders and **5,000** cases of **Hearing Loss**. Again, as with accidents, it is estimated that there are many unreported cases, numbering many tens of thousands!

Andrew said that although the 1994 Regulations had made a major change in how the industry managed H&S, they became 'paper and system' led instead of focussing on risk reduction. CDM 2007 wanted to learn from this by: -

- Clarifying and simplifying the regulations
- Maximising their flexibility
- Focus on effective planning and management, as opposed to futile paper systems
- Encourage better integration through stronger cooperation and coordination
- Simplify competence assessment, reduce bureaucracy and raise standards

The challenge is: -

- To change attitudes
- To change behaviours
- Achieve sensible risk management

Andrew then summarised the main changes from CDM 1994 as: -

- Making explicit what was already implicit!
- Combining the CHSW and CDM Regulations to apply to all construction work
- New trigger for appointments and preparation of the plan
- More stringent duties on Clients to manage work
- A new Dutyholder – the CDM Co-ordinator, with distinctly new duties
- Designers to eliminate hazards and reduce risk
- Greater clarity in relation to competence assessment.

The Regulations are arranged in five parts: -

- Part 1. Introduction
- Part 2. General Management duties applying to construction projects.
- Part 3. Additional duties where projects are notifiable (very similar to the old Regulations)
- Part 4. Health and Safety on construction sites.
- Part 5. General
  - Notification particulars
  - Welfare Facilities
  - Inspection Report details
  - Legislative arrangements

Andrew emphasised that the Regulations apply to all construction work and, significantly, that automatically meant duties remained on clients, designers and contractors, regardless of whether Notification was required. Notification triggered off appointment of dutyholders and their duties, particularly with respect to the provision of pre-construction information and the creation of a safety file.

Clients, Andrew added, had far more explicit duties under the new Regulations, particularly regarding appointments, information, resources, welfare facilities, from the very start of construction work and final use of any structure. He emphasised the importance of the clients in setting the tone of health and safety management right from the start and that they were accountable for the impact they had on standards.

The new dutyholder in CDM 2007 is the CDM Co-ordinator, which effectively replaced the old Planning Supervisor that was not perceived as a success, but had a reputation as a generator of paper, was unempowered and acted defensively. By contrast, the new role was to act as the client's professional advisor on competence, provision of information and adequacy of the H&S plan. He also has a crucial role to play in ensuring the proper co-ordination of the design process – safe to build, use, maintain and demolish. Overall, the role is expected to be positive and enabling.

Designers were anyone who prepares a design for instruction work, including drawings, design details, analysis, calculations, specifications & bills of quantities, or Design and Build contractors. They eliminate hazards and reduce risks from the start of the design process, subject to any other design considerations and inform others of any significant or unusual risks that remain. They must provide information to identify and manage remaining significant risks to those that need it. This can be simply achieved by notes on drawings; written information provided with the design or suggested construction sequences when not obvious. Above all, he urged, do not resort to over-complex matrices of severity and probability, with many coloured boxes to assess risk ratings because they only lead to a confusion of paperwork. It sometimes reflected incompetence hiding behind a spurious science! If in doubt, just try the golden rule of discussing the problem! Designers must have some idea on how their structures are to be built and the Principle contractor must be allowed to share this view.

Underpinning all the duties to achieve better H&S standards is the issue of Competence that receives a lot more emphasis in the ACOP to CDM 2007. Appendix 4 gives a two-stage structure for Assessment of Competence, with Stage 1 listing Core Criteria for Company Organisation and Arrangements for H&S, the Standard to be achieved for each one and the relevant examples of evidence that could be used to demonstrate that they had been achieved. Stage 2 is an assessment: -

- Of the company's experience and track record to establish that it is capable of doing the work
- That it recognises its limitations and how these will be overcome
- That it appreciates the risks from doing the work and how these will be tackled

Andrew concluded by summarising the impact of CDM 2007 as follows:

-

- It is Evolution not Revolution

- It will achieve the next step change in industry performance
- The focus is on effective planning and management of risk through integrated teams
- It requires real investment in competence & skills of the workforce
- Paperwork should be risk focussed and project specific
- It should actively drive out needless bureaucracy
- It should provide the right information, to the right people, at the right time!
- It aims to build on success!

The next peaked was **Rob Miguel, National Health and Safety Officer from Amicus** talking about “**The worker as a Key Health and Safety Resource**” a subject that is at the very heart of CDM 2007! He referred to the latest upward blip of 30% rise in construction deaths and said that the stated that the Regulations and the HSE can’t remedy this on their own. He added that it had been shown that the presence of trained Safety Representatives had resulted in 50% fewer accidents on sites. They were a force for good, went on, because they had knowledge and experience, they were experts on their own workplace and had made distinctive and valuable contributions. They were also treated as equals, which created an atmosphere of co-operation and, in turn, this lead to meaningful consultation and positive outcomes.

Rob continued by contrasting the purpose of Communication and Consultation and said that CDM need both! In fact, True Consultation goes beyond mere communication, because the former examines and discusses H&S issues through the open exchange of views and information. This process is greatly enhanced by formal structures for regular H&S Committee meetings, where views of workers are valued and taken into account. This leads to better decision making and solutions being more readily adopted by the workforce.

Rob cited an example of this True Consultation, taken from an actual case in a North Sea Company, which brought in its own H&S Management System. It led to some dissatisfaction until the Safety Representatives offered to take on the running of the system! They worked as part of a ‘Core Team’ with the H&S department, looking at safety working practices, accident investigations, campaigns like safety quizzes or initiatives like Back Safety training. The Safety Reps. became an integral part of the planning process, data analysis and safety coaching for

other employees. The success of this approach was underpinned by the training given to the safety representatives by Amicus.

Rob concluded that CDM requires an assessment of Competence on the part of Principal Contractors and Contractors that would be greatly enhanced by this consultation process and skills based and H&S Training. Clients, in their turn, had to ensure that the 'CDM Team' gets it right, so that everyone involved was pulling in the same direction.

The CDM Regulations, quite rightly, emphasises the Clients' pre-eminent role in setting the tone of H&S management and **Jim Tassell, Safety Manager, B&Q**, kindly stood in at the last minute to give us this standpoint.

B&Q have a very large property portfolio of 116 stores, in excess of 9,000m<sup>2</sup>, large 'out-of-town sheds' classified as "Warehouses". Modelled on these are about 106 stores known as "mini-warehouses" that are about half the size. In addition there is the original range of 109 stores with about 3,000m<sup>2</sup> trading space.

There is a constant programme of Maintenance, Refurbishments and New Build projects (15 new stores in 2007), which gives B&Q plenty of experience with working to the CDM Regulations! Jim said there were specific problems of interpretation of CDM in the retailing sector with decisions on where true 'construction' work stopped and similar activities began, under the heading of 'merchandising' work! For instance, the design of shelving was influenced by the need to attract customers, which has wider implications than the strictly CDM design parameters throughout the life of the store.

One approach that B&Q had adopted, said Jim, was to develop a long-term relationship with two major shopfitting contractors, by appointing them "Principal Contractors of Choice". This was because 'Experience' of the work they have done in the past is a vital input into the competency assessment. The end result is that these partnerships save long, laborious learning periods and repetitive, time-consuming enquiries! The benefit, Jim added, was that B&Q is growing their own Principal Contractors who are 'interested' in developing their safety competencies. There are also other benefits in succession planning and coping with business peaks, plus the added value it brings, even when they are not acting in the PC role.

This is particularly seen on Refurbishment jobs, where the PCs are involved very early in the Critical Path with store visits and staff briefings leading to a very close relationship with the store management team. There is a clear segregation by hoardings, in the daytime, between trading areas and construction areas, whereas at night, the *whole store* is treated as a construction site under the control of the contractors, including the store-related activities, such as merchandising. Jim went on to say that they did not get hung up on “Is it construction/merchandising/routine store operation?” Instead, B&Q keep it simple with a CDM approach on all work, even when it may not strictly apply. Dealing with the induction requirements of CDM, Jim said that B&Q had developed its own “passport” system to reduce time spent on induction training by regularly used contractors. This did not replace the contractors’ own training in any way.

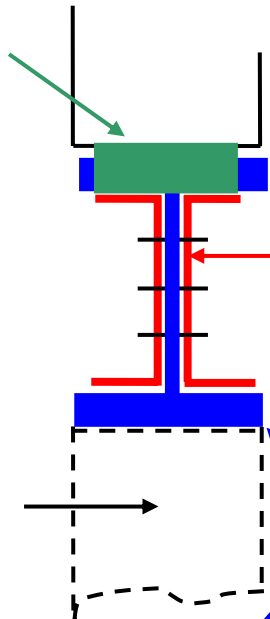
For their other activities, like property maintenance, routine work was outsourced, with a checking system in place for each partner and Contractor rules for all. Major works, like a store re-roof, are covered by a separate system, unless tied in with a revamp project. Kitchen and Bathroom Fitting teams are linked to after-market sales and are not generally new-build within CDM.

Designers in the Construction Industry, in all their guises, have the opportunity as well as the duty to set the tone for the project in its early stages, just like the Clients. Our next speaker, **Hash Maitra, Regional Director of FaberMaunsell**, stated this quite clearly by saying that Good Engineering/Design≡Safety and that clearly equated to **Good CDM!**

He went on to give some very relevant examples of significant Health and Safety Hazards and Risks that could easily be anticipated in the construction process and needed to be fully understood by designers. In a clear echo of Andrew East’s earlier plea, he urged delegates to “**Dump numerical risk assessments and use the HSE’s own benchmarks**”. He added that should only consider hazards that are not obvious to a competent contractor (or other designers), or that are unusual or difficult to manage.

Hash then showed an example of how to form a hole in a section of block walling between steel columns. This is a common operation in extension, alteration or refurbishment projects: -

Step 3: Make-up plate on PFC top flange – dry packed to ensure wall bears properly on the PFC



Step2: Back-to-back PFCs: full length supporting member bolted to web of stub column. PFCs supported on main columns at ends of wall on a bracket welded to main UC

Step 4: After connection of PFCs, wall under demolished

Step 1: Remove alternate single blocks in top row of opening. Insert stub columns in gaps and dry pack to support wall above. Remove intermediate blocks to complete void row.



**The finished job**

This method of working eliminated the multiple hazards of potential wall collapse, Work at Height, working around temporary structures and manual handling problems.

He complemented this with an example of how to alter the position of a structure on the design so that accidental contact

of plant and Overhead Gridlines was eliminated, in close consultation with the Power Operating Company.

His third example involved the construction of a bridge over a roadway. By installing pre-bored, contiguous piles to form the bridge abutments, building the bridge at ground level and then tunnelling under to take the road, the following multiple hazards were eliminated: -

1. For abutments;
  - 1.1.No need to fix re-bar
  - 1.2.No need to fix shutters (no need for cranes, WatH, manual handling)
  - 1.3.No need to work in excavations
2. No falsework erection (No WatH)

The question of post-construction maintenance was also a problem that many designers have ignored in their haste to erect an impressive piece of architecture! The move to more glass-clad designs has increased the age-old problem of window cleaning and the need to think about replacing faulty/broken glazing! Self-cleaning glass is only part of the solution and the provision of fall-arrest anchorages, MEWPs and crane access is an important consideration. Internally, access to ceiling service voids by access platforms instead of stepladders needs to be carefully thought through.

The last speaker before lunch was **Eur Ing Kevin Fear, Head of H, S & E, CITB Construction Skills**, who talked about **Competence Skills**, a topic very close to Rob Miguel's! Kevin very wisely started his presentation by defining competence as: -

**S**kill  
**K**nowledge  
**A**ttitude  
**T**raining  
**E**xperience

He then explored and expanded these various elements to determine the various qualities that needed to be addressed in the construction workplace. He riskily quoted the much derided Donald Rumsfeld quotation about the Iraq debacle that can be neatly summarised by saying the biggest danger is from what “we don't know what we don't know”. This was aptly supported by the quotation of an Oriental proverb that categorised competence and incompetence into their conscious or unconscious types. The moral there was the “Conscious Competent” person was a wise man should be followed and as was quite able to teach the “Conscious Incompetent” who is capable of absorbing training! Kevin added that there was often peer pressure to under perform safety related procedures and that it was equally known that Construction Professionals refused to believe that they were uninformed on Safety Matters.

Kevin went on to say that everyone had to display a willingness to be self-critical so that they could recognise their own deficiencies. They should also be ready to accept guidance from peers, supervisors and managers. Any training opportunities should be grasped fully and they

should constructively challenge inappropriate standards and behaviours. CDM 2007 was very rigorous in the pursuit of competence in /regulation 4 that requires: -

- No person shall appoint a dutyholder unless he has taken reasonable steps to ensure that the dutyholder is competent.
- No person shall instruct a worker for design or construction work unless the worker is competent or under the supervision of a competent person.

But the burden to satisfy competencies placed firmly with the individual by the really stringent qualification that

**No person shall accept an appointment unless he is competent**

The ACOP has some very sensible guidance on this matter by saying that

**“Assessment (of Competence) should focus on the needs of the particular project and be proportionate to the risks and complexity of the work”**

It also adds: -

**To be competent an organisation and individual must have sufficient**

- **knowledge of the specific tasks to be undertaken and the risks the work will entail**
- **Experience and ability to carry out the duties in relation to the project**

In concluding, Kevin said that

- Competence is a blend of abilities that can be gained and lost
- Do not measure competence in the thickness of the assessment questionnaires in centimetres.
- Do use your judgement!

The next dutyholder role to examine was that of the Principal Contractor and this was presented to us by **David Burgess, Health & Safety Manager, North Midland Construction**. David defined the role as an eight element task and explored each one in detail. Obviously the strategy started by laying out the Planning, Management and Monitoring aspects, with attention to Timeline, Resources, Capability, Critical Path, Measurement of Performance and, importantly, identification of improvements. What had helped **North Midland** particularly was the

- Common planning process with common procedural support
- Development of the system within their integrated management system, and
- Provision of information early to the client and early client liaison

He stressed that the written plan need not be complex, just an outline of the work, roles, responsibilities of individuals and the specification of key controls and requirements. Most importantly, all of this needs to be given to those who need it, in a form that means something to them. As an example, contractors only receive the parts that matter to their work, really on a 'need-to-know' basis!

The next element was the provision of Welfare Facilities that was also a crucial factor for the Client to address before any construction work started. Logically, this had to be suitable and sufficient for the site work involved, e.g., Demolition, Contaminated Ground and wet weather working. The acid test is, provide facilities that *you* would be willing to use and treat your workers with the respect they deserve and you are more likely to secure their commitment and involvement!

David's next chosen topic was the matter of Competence and he echoed Kevin Fear's thoughts before lunch. David said the key issues in **North Midland** were:

- Competent employees have less accidents
- Identify and adopt standards for employees and contractors.
- Find out what your people think, value those opinions and look at their perceptions
- Publicise the number of training days completed to demonstrate your commitment to competence. Training has a direct influence on risk perception, particularly vocational and work-based.
- Employee perception influences their behaviour and these factors are significant: -
  - People do not always make rational decisions
  - Influence behaviour by having a positive interaction.
  - Provide a facility for reporting hazards, near misses and other concerns

The next element was that of Induction, which is another aspect of training. It must be specific, relevant to the recipient and understandable! It should be reviewed regularly and changed, particularly as the project progresses. It should also be the start of the consultation process, dealt with at some length by Kevin Fear, as it makes people feel valued. An important part of this is feedback that should be encouraged by 'not shooting the messenger', having a good follow through on actions and keeping people informed by providing good feedback to them!

Moving now to the Design factors of the job, David added that nothing prevented unsafe situations more than early intervention by reviewing designs and keeping your CDM Co-ordinator close to you and listening to their opinions. In addition, if you have found a solution to any issue during the construction phase, learn from it and *do* provide designers the feedback!

The last element of David's strategy concerned site security to keep 'other persons' out of the site by protecting hazardous areas. It was equally important to ensure that they were not at risk from site traffic interfering with the surroundings when making entrance and exit. Locking up plant and always removing keys also protected person from themselves!

David concluded by summarising the advantages of CDM 2007 for North Midland as: -

- The changes give the industry an opportunity to change behaviour and achieve the next step change in health and safety performance
- It is a single Regulatory package
- The effort devoted to planning and managing projects is in proportion to the risks involved.

For an example of the benefits of good CDM principles to businesses, we next looked to the immensely successful Terminal 5 Building at Heathrow Airport and our speaker, **Mike Evans, Head of H & S, BAA Terminal 5**. This massive project cost £4.3 billion and, at its peak employed over 8,000 people and throughout its completion will have given work to 60,000! From its outset, the H & S Welfare issue was an important business issue, with 1500 new starters per month at its peak!

At the outset, BAA decided that the conventional Construction Industry Norms, which predicted two fatalities and over 600 seriously injured, were just not good enough and a totally different approach was needed! In creating the right culture they established: -

- Commitment from the top
- Ownership of Risk – BAA did not pass this down the line
- Collaborative working with integrated project teams
- 'Safer by Design' concept with permanent works design and construction methodology developed concurrently
- Safer in construction performance with unique PC arrangements
- Leadership and cultural change to give an Incident and Injury Free programme (IIF).

Because of the diversity of the project, it was divided into 16 major sub-projects. To manage the common support services for all of these, a Logistics Specialist was appointed to provide: -

- Car parking, bussing and security
- Office accommodation, welfare facilities, catering and cleaning
- Off site storage bulk material delivery
- Concrete production and tower cranes
- Onsite Induction and CSCS Test Centre
- Occupational Health, treatment and emergency response services.

Having attended to the 'basics', the safety culture had to be changed to support the intended IIF programme but, after six months, it was not working. So BAA decided to give leadership training to all levels of management and supervisors and a general briefing to all other workers.

The rationale was **“Leadership as distinct from Management.”** to: -

- Create a vision, declare a future and go for it!
- Learn from the past but don't be constrained by it
- Mobilise others to action
- Look for opportunities to demonstrate commitment
- Enable senior managers to recognise their ability to lead a change in safety performance

The success of IIF was judged by these results from a workforce survey: -

- 74% of site workers on T5 feel that safety is given more priority than anywhere else they have worked
- Generally workers feel able to talk to their managers and supervisors about safety
- Managers seen as mainly responsive to safety
- People feel comfortable to talk about and report accidents and near misses
- People say they feel comfortable people working unsafely in their area
- People say they have the right equipment and PPE to do their job

In conclusion, Mike said: -

- Achieving extraordinary safety performance demands more than a systems and compliance approach
- Better safety comes from better safety leadership – not just more safety professionals

- Senior Managers get the level of safety that they demonstrate they want

AND

- Clients have the money and Clients get what Clients want!

Our final speaker was **Lawrence Waterman, Head of Health and Safety, Olympic Delivery Authority**. Uniquely for our speakers today, Lawrence said that he wanted to tell delegates that there were opportunities for Midlands firms to get business on the Olympic project. Surely he didn't have to go that far to ensure audience attention, because the scale of this project is truly awesome, as these 10 Key milestones indicate!

- Majority of Olympic Park cleared and cleaned
- Power for Olympic Park set to underground
- Main Temporary roads and bridges built – safe site established
- Installation started on new water and energy systems
- Regeneration of the Park's waterways started
- Transport enhancements started, with many complete
- Construction started on bridge over Aquatics to Stadium
- Olympic village started
- Contracts let, designs agreed for 'Big 4' Park venues
- Legacy Masterplan Framework well advanced.

Regarding the environment, Lawrence comment that all contaminated ground would be treated on site and that all demolition products would be re-used on site. Many canals, streams and railways were to be bridged and enhanced as part of the legacy provisions. There were also temporary structures where there was no long-term sustainable use so the cost and environmental impact would be minimised.

Lawrence went on to examine the arrangements for the CDM Dutyholders by examining the CDM Coordinator. He remarked that, whereas BAA had a long history in Construction and a future, the ODA was a temporary body without the conventional commercial leverage over contractors, so why should they try to impress by maintaining standards? For that reason, the Contractors are being appointed by other Dutyholders with a longer Construction pedigree after ODA has checked their basic competence. In another special arrangement, ODA had appointed a **CDM Integrator** who acted as a facilitator across the overall programme with an overview of the individual CDM Coordinators for about 90 PCs on smaller projects. This in turn meant a novel approach

with notification to HSE on a single F10 (Rev), to which was attached an 'online' spreadsheet scheduling dozens of projects. The CDM Integrator also monitored the Health & Safety File format and definition.

There was also a sophisticated Procurement System with online access for potential contractors to register their interest in getting work. This was the start of the competence assessment process and contractors were emailed when appropriate work became available. The criterion for success here is not just 'the cheapest' to give value for money, he added, as other factors often rule firms out before bids are received! There is Regional Support Organisations for this across UK, hence Lawrence's introductory remarks about 'jobs for the Midlands'! Help is available to enable firms to attain higher standards, which are not used merely as a bar to exclude firms from a successful bid.

Good progress has been made on the programme, to date, as with the process of CDM Coordination and Integration. The ODA policy is to pool existing practise in the Construction industry and to develop higher standards where appropriate. Planning includes risk assessments and competence standards are based on CSCS or equivalent. The overarching requirements are

**“On Time and fit for Purpose”**

With the Cross-cutting themes

- Safe & Secure
- Quality & functionality
- Environment
- Equality and Inclusion
- Legacy

It is worth noting that there is no alternative venue to 'fall back on', like the FA relied on the Millennium Stadium when the Wembley Construction fell behind schedule, so has to be right first time!

The Forum was rounded off with a lively question and answer session, after which, the Chairman, Gerry Mulholland thanked the speakers and the audience for contributing to the success of the day.