

All Party Parliamentary Group for Excellence in the Built Environment

Inquiry into the quality of new build housing in England

First evidence session - **Independent view**

Monday 16 November 2015

Speakers giving evidence

Institute of Clerks of Works and Construction Inspectorate - Rachel Morris, Chief Executive and Ian Carey, Past President

Local Authorities Building Control - Paul Everall, Chief Executive, Philip Hammond, Managing Director, Barry Turner, Director of Technical Policy

MD Insurance Services Ltd - Rob Clay-Parker and James Bush, Managing Directors

Zero Carbon Hub - Rob Pannell, Managing Director, Ross Holleron, Project Director

Royal Institute of British Architects - Andrew Forth

Members of the commission present

Oliver Colvile MP (Chair)

Maria Miller MP

The Earl of Lytton

Rt Hon Nick Raynsford

Tony Burton

Turlogh O'Brien

Stephen Stone

Andy von Bradsky

Apologies

Helen Hayes MP

Mark Gardiner MP

Lord Richard Best

Peter Bonfield OBE

Speakers

Speaker 1. Institute of Clerks of Works and Construction Inspectorate - Rachel Morris, Chief Executive, Ian Carey, Past President
[Rachel Morris speaking mostly]

The current general perception is that the industry has become progressively management orientated, and contractors increasingly face the dilemma posed by the quality-cost-time conundrum, a challenge that is exacerbated by the fall in skill and resource levels, knowledge gaps and general poor standards of workmanship.

Clients and developers for their part, demand value for money, cost optimisation and projects that are delivered right first time. These issues have resulted in numerous defects (many of a repetitive nature), and have on too many occasions affected overall new build housing quality.

We strongly believe that house buyers need the assurance that a qualified independent third party inspector is safeguarding their interests to ensure that their new home is built to a high quality and is value for 'their' money; however, over recent years these two factors have been questioned and have become a concern.

General feedback from ICWCI members:

- With the increase in house building, there has been a higher demand for site staff. This has had an effect on build consistency and increased the requirement for agency labour, thus often resulting in a decrease in skills.
- Warranty inspections visits are sometimes being missed.
- Private buyers often rely heavily on the Building Warranty CML Certificate. The Warranty provider only needs to inspect certain items and relies on the builder to comply with their standards.
- Issued drawings and specifications do not always meet current building regulations and as such further defects occur.
- Main house builders have targets to achieve, often at half year stages. At the end of these stages the quality of the build is too often reduced particularly when they have to build quickly to achieve targets.
- Handover documentation is often poor for private plots; certificates are not always fully completed with items missing.
- Installations of goods are not always fitted to the manufacturers' guidelines.

Questions asked by ICWCI members: [referred to submission – below]

- Will the future building industry improve sufficiently in the coming years to provide skilled and qualified labour across all trades and disciplines?

- With reducing numbers of experienced and qualified professionals currently available, how will the construction industry reverse the decline in quality and ensure that required standards are achieved?
- Are today's house building inspection practices adequate to meet client expectations?

Recommendations as suggested by ICWCI members:

- All sites should be regularly quality monitored and independently inspected by a qualified site inspection practitioner. Housing Associations nearly always use or directly employ Clerks of Works/Construction Inspectors; can this be said also of housing developers?
- All sites should have regular warranty / building control inspections with free flowing dialogue with the Clerk of Works / Site Inspector.
- Significant CPD should be arranged and made mandatory for all site staff/trades.
- Apprenticeships for housebuilding site staff should be reviewed, improved and increased.
- More focus on education (at age 14 and above) to attract the next generation into careers in construction)
- Home buyers/owners should have more readily available information around their options for a Survey/Inspection on their property, including what will and will not be picked up.

In conclusion

The construction industry should review the future direction of new build housing to address concerns and issues around quality; within that review it is recommended that a higher degree of regular quality monitoring, via independent inspection be factored in, i.e. by qualified site inspection practitioners/Clerks of Works.

Cost of clerk of works per annum cheaper than a day in court – to quote Tony Bingham.

Ian – disappointed we're still addressing the same issues that talking about 30 years.

Speaker 2. Local Authorities Building Control - Paul Overall, Chief Executive, Philip Hammond, Managing Director, Barry Turner, Director of Technical Policy
[Mostly speaking Paul Overall] (Summary of points made during the presentation and key points from submission)

LABC is representative body for Local Authority Building Control (LABC) has a unique place in the building industry. Our members are local authorities. Local authority building control teams are responsible for compliance with the building regulations, enforcement and ensuring public safety when buildings and structures are damaged or become dangerous.

It is a not-for-profit service. The LABC network is by far the largest provider of building control services to the construction industry and the SME market in particular.

With 3,000 surveyors across England and Wales it promotes quality

Construction by working cooperatively with designers and builders, ensuring good buildings are delivered on time and within budget.

It's fair to say in the main purchasers of new homes are satisfied with new product – and want to suggest ways can be further improved.

But survey suggests there are those who are unhappy. The core problem is there is a perfect form: skills in the industry short supply – such as bricklayers – exactly at the time building control under enormous pressure. Competition in building control is driving down costs, leading to fewer onsite inspections at the same time when there are fewer skills in the industry and fewer people to inspect. During the recession industry lost a lot of people and they are not coming back.

Not all developers are bad; in fact we do a lot to promote developers and builders through our own awards. But more effort should be spent on quality rather than technical innovation.

Clearly there is a bit of gap when it comes to checking quality. Building regulations not do with quality – they are more concerned about safety and energy. Warranty ours and NHBC (the largest warranty provider) is more about structural integrity and meeting building regulations.

A local authority building control survey

For many complicated reasons, it is hard to establish whether quality in new homes is improving, staying the same or getting worse.

Homes have become a 'lifestyle' product and are quite different to the designs of 30 or 40 years ago. Ensuite bathrooms, family bathrooms, down stairs cloakrooms, fitted kitchens, fitted appliances, utility rooms, wireless technology, down lighters so many features that are complex, increase the risk of installation failures and increase the difficulty of maintaining a high decorative finish.

To the new occupiers wanting their dream home, the risks of disappointments have been multiplied but these may not mean there are problems with the structure.

Therefore we have surveyed the volume and nature of complaints to local authority building control. Consumers seem to think we can do something about it, but we can't and they are disappointed.

A questionnaire was emailed to all LABC 'heads of building control'. The universe of combined local authority teams is 303. Heads of building control from all English regions and Wales responded. LABC's Heads of Building Control were asked to research the number and nature of all complaints over the past 3 years.

Local authorities are not responsible for the work of NHBC or other Approved

Inspectors (AIs). Nor do they want to attract complaints that should be channelled either to these AIs or the developers they work with. However, the public generally do not understand this and matters can get complicated because some developers share work between LABC and AIs or change their allocation of work according to the price quoted.

Therefore, local authorities receive a lot of unsolicited 'complaints'. Highlights of the survey:

- 67% of complaints were about non-regulatory and non-warranty issues with the majority of these being related to the aesthetic finish, décor and built in appliances.
- 9% of complaints to LA's are building regulation related, however each of these complaints could be attributed to either an AI or an LABC inspector. Not all the building regulation issues are the responsibility of local authorities.
- 18% of complaints were attributed to registered self-certifying schemes.
- 5% of complaints were related to structural defects under warranty providers.

We also found that:

- Unsolicited complaints about NHBC are increasing
- Unsolicited complaints about AIs are increasing
- Unsolicited complaints about quality were increasing but that these were not to do with building regulations
- Complaints about self-certified trade work was increasing
- LABC teams average 7 onsite inspections per plot (the highest response being 19 per plot and lowest being 4). This is far greater than the combined building control and 11 warranty inspections per plot undertaken by the private sector which LABC's warranty provider MD Insurance Services (MDIS) says is usually between 3 and 4.
- LABC Warranty conduct an average of 3 -4 additional inspections per plot. These 3-4 inspections plus the 7 average LABC inspections equates to a total of 10+ site inspections per plot by LABC
- We have been told by MDIS that LABC Warranty has lower claims to date than other providers because there are more site visits and more interventions made. The fact that many of our customers are smaller developers also probably helps in producing a lower claims ratio.
- Some services new to the market are offering 'value' but based on a maximum of 3 inspections.
- All LABC inspections take place onsite and photographs are not used except in exceptional and pre-agreed circumstances.

Recommendations

LABC suggest improvements in the Building Regulations and Building Control system that would either help improve quality construction on site or enable home owners to see and understand what has been recorded on their home by the different bodies involved. (See submission)

1. Proposal: Specify elements of plan checking and site inspections that should be carried out by building control bodies. Why?

The current building control system only stipulates that there should be a commencement and completion notification. By specifying the elements of plan checking and site inspections, competition would at least be on the basis of a minimum set of inputs. The current risk is that to be successful in bidding for work, Building Control bodies will seek to do the minimum amount of inspections possible, and with the less scrupulous operators this can be very little indeed.

2. Proposal: Make inspection records and certification records and documents transparent and available to home owners.

(a) Proposal: Specify the plan check and site inspection records that should be retained, how this should be done, and ensure these can be made available to the end purchaser. Why?

There are no requirements for building control bodies to record information about plan checks or site inspections in a specific way, nor do they have to use a system to capture and hold this information. Therefore, it is difficult for the public to obtain meaningful site and/or plot information

(b) Proposal: Define the records collected and collated by the developer and given to the purchaser or occupier. Why?

The public frequently have little understanding of how their home has been built, the technology in it or how to use and maintain it. Similarly there is no specification of what records should be made, their definition or how they should be recorded, stored and made available to home owners. At present, nobody has proof that everything to do with the building has been completed and 'checked'. This log would need to include: warranty documentation, building control documentation, completion certificate, Gas Safety, MVHR system, competent person scheme certificates, or 'suitably qualified' installers as well as instructions and guarantees for systems and appliances sold as part of the new home package by the developer.

3. Proposal: require that the Completion Certificate lists the regulations under which the dwelling has been built. Why?

DCLG uses 'transitional provisions' that allow developers to delay construction to current standards. Under these provisions, by registering sites with building control and making a minimal start, they can construct that site or phase of a development to the standard in force at the time of registration– this arrangement applies indefinitely. Developers fully understand this and, looking at Part L of the Building Regulations for example (energy efficiency), the vast majority of current sites are being built to 2010 standards and not 2013. Some sites are still being completed to 2007 standards. The public do not understand this and naturally assume they are purchasing a new home to the current standard.. Once started a site may have hundreds

of plots and take years to build out. This is why the public are being sold houses constructed to old standards.

4. Proposal: Create public information and a cross-industry initiatives to explain quality, warranty and regulatory compliance to home owners. Why?

Home purchasers are probably more aware of site safety and the Considerate Constructors Scheme than they are of the complex relationships between all the parties responsible for delivering quality homes. Whilst virtually every building site displays safety and considerate constructor posters which has built public awareness, there is no scheme or initiative to explain quality. A similar situation occurred in relation to the introduction of other schemes like Gas Safety (everyone knew Corgi) and the competent persons schemes e.g. FENSA. In new homes, the public think their local council is the final arbiter, but it isn't. There needs to be an overview that the public can understand and all participants in the industry should carry or link to the same information.

5. Proposal: Coordinate the whole industry to close the training and skills gap

(a) Proposal: Set a minimum level of competence and training for site agents (site managers) to cover regulatory compliance and quality of work. Why?

25 years ago it was common to have a 'clerk of works' on building sites who supervised tradespeople and sub-contractors. Where such a person was in place, building control had a direct relationship to this person. The introduction of offsite manufactured 'system-build' components, the reduction of directly employed trades people in favour of sub-contracting, and the increase in competent persons schemes and self-certifying trades all meant that the clerk of works role declined. The modern site agent in the best companies still takes this role, however, there are many who really only manage the on-site logistics and ensure delivery on time at the estimated cost. This has produced the absence of a quality culture because there is no champion and packages of work are done by different sub-contractor teams who feel little relationship to the whole home as a complete finished product.

(b) Proposal: Create an industry 'hub' or summit focussed on the cross training and awareness of different trades. Why?

The Zero Carbon Hub supported by LABC showed how trades people through lack of appreciation, damage the work of others. In the field of energy conservation this was exemplified in damaging air tightness or the installed insulation. However, it is also common in damage to fire protection which is a life preservation issue, leaks by drilling into water systems and waste pipes, and, the delivery of good access by creating obstacles. Ultimately these are training issues and the whole industry needs a concerted approach. This was done on Part L because of the climate change debate and the realisation that there was a huge performance gap.

6. Proposal: Introduce a requirement for Warranty products to meet defined standards. Why?

Not all warranties on new homes have the same value and the level of insured protection varies greatly. The government requires that all new homes come with a warranty, but these warranties are placed on the market with insurers of different ratings. It is a market. In difficult times it is possible that insurers might become insolvent, cease trading or renege on the contract. '

7. Proposal: Include a test for ventilation in the records provided to home owners. Why?

There is a mandatory requirement for testing mechanical ventilation and heat recovery systems, and naturally ventilated homes with extractor fans. Given the air tightness and thermal performance of homes, ventilation is important to healthy air quality. Yet there are many Building Control bodies that do not insist on the correct installation, testing and commissioning of these features. There is a requirement for air pressure testing which helps demonstrate the quality of energy saving and the ventilation performance could mirror this and be built into the mandatory Energy Performance

Certificate (EPC). When competition between building control and warranty providers has driven down the value of building control some providers have radically reduced site visits and left the issues that can occur to the developers and insurers.

This creates a nightmare for the occupiers because they need to prove the fault belongs to either or both of these parties. Ventilation issues are not noticed or understood by the occupiers until it is too late, therefore these are easily lost by 'value' services who still want to make a profit. By making the record a requirement they would have to be priced back into the service.

Speaker 3. **MD Insurance Services Ltd** - Rob Clay-Parker and James Bush, Managing Directors (Rob Clay-Parker speaking – responsible for technical standards)

MDIS is a leading warranty provider and Approved Inspector, working with a panel of 'A' rated insurers providing structural warranties and building control to builders and developers across the UK.

We are an associate member of CML and have 24% of the market. In 18 years we have:

- Provided cover for 250K housing units
- Provided covered for over £45bn of property
- Dealt with 11,000 damage claims and we have dealt 3,300 with defect resolution claims
- In past year undertaken 46855 stage visits and raised 48559 issues during those inspections. We have 24% of the market.
- During 2014 policy worth nearly £4m and compared with £3.3m in 2013
- In 2014, 41,170 policies and 71 claims; in 2013 and 206 claims (doesn't say how many policies)

Risk management process works. For sites approximately 10 units we will carry out eight to 12 inspections.

Offer two year defects warranty – in which defects responsibility of the builder. If they fail to step in we offer a mediation service. Failure to comply results in a valid claim.

We try and develop technical standards with the industry. We deliver comprehensive trialling and knowledge sharing and audit. We operate as an approved inspector though it's not something we push. Comply with performance review audited by CIC.

Industry issues:

- Loss of skills happens every time there's a recession, lose people from the industry.
- The main driver in the industry is production and a lot of pressure on developers to deliver on time. Site-staff have to focus on that. And we think there is an over-reliance on inspection by warranty and building control organisations to drive quality. We try and do that. But the primary function on the warranty side is to manage risks – but it is not about or able to provide quality control. The economics are such that it does not allow member of staff to do that number of inspections.
- Warranty and building control – number of new entries to the market and are prepared to do the service for less and same with building control.
- There is also a high turnover of staff, who go from public to private and from private to work in construction. We're all fighting for the same resource.
- Construction is a challenge because of the skills shortage – and complexity. House building is akin to assembling 1000s of different components in a muddy field and trying to do that quickly.

Recommendations**Our three principal recommendations:**

- What we feel would be beneficial is for larger housebuilders to have to employ directly someone who has responsibility for quality, with people employed specifically to achieve this on site.
- Other aids would be to make mandatory the approval of drawings prior to commencement of work on site. Too often we find design progressing throughout the construction phases with over reliance on contractors, and their sub-contractors to achieve compliance.
- Finally a change in regulation to require builders/contractors to maintain a quality management process could also be beneficial which should be checked and updated for every scheme showing how quality will be achieved. Quality is fairly notional and can be interpreted in many ways, an agreed achievable, minimum standard would assist.

In addition there are other changes which we feel would assist:

- Offsite, Innovative and other new initiatives lack control and proper evaluation, we as a warranty provider are trying to assist builders/developers etc through the process of achieving compliance, however we often find poorly thought out designs using untested and unknown components offered by numerous companies who have setup with little or no quality control, third party assessment or consideration of component interaction or lifespan.
- BIM could help, however we are dealing with an industry where a lot of smaller projects are still utilising a paper based distribution system due in part to site requirements, but also cost and a lack of coordination in management of site documents, everyone uses a different system for storage and access of site information.

Speaker 4. Zero Carbon Hub - Rob Pannell, Managing Director, Ross Holleron, Project Director (Presenter Ross Holleron)

Zero carbon hub was set up in 2008 to take day to day operational responsibility for achieving the Government's target of delivering zero carbon homes in England from 2016. Since then targets for zero carbon has changed and the Zero Carbon Hub continues to work with Government and industry to identify challenges and solutions in advance of the introduction of nearly Zero Energy Homes from 1st January 2021.

The Zero Carbon Hub has or is running a number of projects which relate to the quality of new build housing: the energy performance gap; overheating; and ventilation.

The performance gap is the difference in the design of energy performance and what the house achieves when it is handed over. It's an important issue because if it uses more energy than expected it will result in higher bills and bigger carbon emissions.

The problem came more to prominence during our work on carbon compliance for 2016. And as part of the protocols we have agreed with government, from 2020 industry must demonstrate that 90% of newly built homes can meet or better design performance.

We've looked at the problems and gathered evidence and discovered by mapping out with industry representatives that there were issues right across the supply chain.

Companies like Crest gave us access to their developments and seconded their technical experts. We did site investigations of 20 developments of over 200 units. We looked at what we found on site and we managed to narrow it down to 15 priority action areas.

These 15 areas detailed in the submission. For example, they range from issues with design – designers didn't know how to integrate the fabric design and services. Calculation assumptions for both fabric heat loss (U-value) and thermal bridging do not reflect the reality of site construction, over giving lower heat losses than can be achieved. And building fabric is often incorrectly constructed, typically cavity wall insulation etc.

We came up with five headline areas for change (set out in the submission)

Needs a clear signal from government that it expects the industry to act now and that these needs to be stimulated through funding for research and development into testing, measurement and assessment techniques. Draconian measures through building control is not the answer.

One way of simulating action would be to require that for public land deals developers must sign up to employ energy certified operatives and professionals for these developments. There needs to be further levers to reward those that are successfully meeting performance targets.

On the industry side – house builders and developers have a responsibility to demonstrate back to government that they can meet these targets without having to test every house to destruction – and be more like the car industry. Car manufacturers don't do that to prove their performance.

Skills and knowledge is very important. R&D happens but often new knowledge gained remains with the team who discovered it – and may not filter down to the regional team, let alone the industry at large. It very seldom gets embedded into education for new entrants or CPD. So it's very much industry's role to coordinate that.

There is good news as far as energy literacy is concerned. We've had over £400k from CITB to take our knowledge and experience and turn into something practical.

Overheating could be something we shoot ourselves in the foot with if not mindful of how designing and constructing new homes.

Priority Actions for Industry – set out in submission:

For industry:

- 1. Performance assessment r&d:** Undertake the research and development necessary to create innovative testing, measurement and assessment techniques to understand the performance gap and develop commercially viable methodologies acceptable across industry for 'demonstrating Performance'.
- 2. Skills and knowledge development:** Ensure that as-built energy performance knowledge, including learning from ongoing research and development, is embedded into training and up-skilling for professionals and operatives.
- 3. Construction details scheme:** Develop an industry owned and maintained construction details scheme providing 'assured' as built energy performance for the most common major fabric junctions and systems.
- 4. Continued evidence gathering:** Support further evidence gathering processes and coordinated feedback to ensure accelerated continual improvement across all sectors of industry.

Priority actions for government

- 1. Signal clear direction:** Clearly indicate that, in place of immediate additional regulation, it expects the construction industry to act now and have put in place a number of measures to ensure that the energy performance gap is being addressed and to demonstrate this by 2020.
- 2. Stimulate industry investment:** Signal their long term intent, by funding research and development into testing, measurement and assessment techniques with immediate effect, to support the industry in providing the information necessary to quantify the performance gap and create the Learning loops required to drive continuous improvement. Additionally, provide pump prime funding to enable industry to develop a construction details scheme.
- 3. Strengthen compliance regime:** take action by 2016 to ensure that the zero carbon hub recommended revisions to energy modelling practices, sap processes and verification procedures, together with a strong

regime to ensure that only suitably qualified persons carry out energy modelling and assessment, can be put in place.

4. Support skills & knowledge development: Accelerate the demand for industry developed qualification schemes by requiring energy

Certified operatives and professionals for developments on public land from 2017.

5. Royal Institute of British Architects - Andrew Forth

There are a lot of good schemes being delivered across the country – and many RIBA awards are given to housing schemes. But to sour the mood, a lot of schemes are not of good quality – and like to address that now.

Drive to build more homes can't be at the expense of quality. Can't be just about numbers. Also need to recognise in some parts of the country is quite hard to build a good quality house at the price in the market people prepared to pay.

From our perspective architects are involved in fewer and fewer houses that get built. And it's not just that they are not involved in the design, but even when they are, they are being marginalised in the process and therefore issues about design not being learnt. We are getting reports that architects are not allowed to visit sites during the build process, for example. That means they are not seeing how their designs are being built, so if there is a problem with the design they don't learn about it until much later. And it means architects are not learning about what it's like to be on a building site, which is an important part of their education.

Like to speak about the sale of public sector land for housing, which presents a real opportunity to do things differently. It would be a real shame if all the land is sold for the highest price developers will end up building small homes and lower energy performance homes.

If instead of selling for the highest price we adopted an approach that advertised the opportunities in advance so that architects, developers, local services providers and local residents knew there was potential to do something with this piece of land and engage in the process and say we'd like to see this built here. I'd like to point to Cambridge as an example – really engaged with the community in building a substantial new settlement (mentioned in the submission)

Residents got new schools new GPs surgeries, new highways, so it's very popular. So money saved on planning battles can be employed building better homes.

Finally like to talk about design review – which is generally used on larger schemes. Where architects are involved in the process and looking at design as it passes through key stages really important part of ensuring the design is sensitive to local traditions and responsive to local desires.

It tends to result in better places than are better for people to live in. Can seemingly put up anything at the moment. Very much the case with office to resi conversions, where you here

about new homes of just 1205 sq m which would not classify as a bedroom in certain parts of the world.

Q&A

Question from Maria Miller

I wanted to ask questions around the quality assurance of new house building. My constituency in Basingstoke has probably more new homes than any other part of the country over the last 10 years. So I have an insight into this issue. So I have a question for Rob – as you issue warranties for many of those new homes. I'd like to ask when you issue a cover note what that really means to a new house buyers who has just spent say £300,000 on a new home – and what do you think consumers think it means?

Answers:

Rob Clay-Parker (**MD Insurance Services Ltd**)

The cover note provides a proxy for the technical warranty cover for the policy. For the first two years that is provided by the house builder or developer and the remaining eight years that is covered by us. The customer tends to think that a comprehensive inspection process on every individual property will have taken place and that every single stage of construction of that property will have taken place - and that may be the case. It may be the case as part of a sampling risk management process a couple of stages of the construction process may have been inspected. We inspect a number of foundations, a number of DPCs etc.

Every single property we do a completion inspection. Gas certificate and electrical testing. But not all properties get the preceding inspections. On a site of say 200 or so houses on a site you would sample inspections on other stages – like foundations.

Maria Miller: But every single house gets a completion inspection – and that's why it says on its cover note that the audit surveyor has carried out a satisfactory final inspection of this property unit.

Do you not think that sentence may be driving what you say is what the customers think about the process and what actually happens? And what have you done to try and rectify that? There seems to be quite a prevalent problem that people think you inspect every house and you don't.

Rob Clay-Parker: We do extensive marketing and communication, with every new home we send out a home owners' manual which sets out a number of things including how the policy operates and it also covers the area of the policy.

Maria. But you don't actually do what customers think you do and that is the problem.

Rob: Yes it could be perceived as that and also there is the same perception for building control, albeit they provide a statutory function.

Maria: Does anyone think that house purchasers buying brand new houses should do what second hand purchasers do and get a full survey done as they are not getting a fully inspected house when they buy it.? Yes or No.?

Paul Overall: It should not be necessary, no. All will have a completion certificate.

Barry Turner, LABC. In the LABC submission we have included a recommendation to show all the inspections carried out – not on the warranty certificate but on building control completion certificate. But want to make the point that both building control and warranty are not necessarily addressing quality issues, they are inspecting for compliance with the regulations and for insurance.

Question from Oliver Colvile:

Buying a house is the biggest investment ever made in my life – and then I discover it's not a high enough quality design or it's a shoddy bit of building, I would feel somewhat aggrieved. What's your view – what does the clerk of works think about it?

Ian Carey, Institute of Clerk of Works: I really don't think you need a full structural survey it's a bit of a given that the regulations are met. However, having said that, there is no reason why you couldn't have a survey done which looks at quality of build and makes suggestions and benchmarks against good practice. The problem is, as you've just said it's probably the biggest investment a buyer is going to make in their life (can't hear rest of the sentence)

Maria Miller: When you've got the risk-based approach no guarantee everything been inspected?

Institute of Clerk of Works, Ian Carey. On a typical new build home you may well have a statutory compliance building inspector and you may have a warranty provider doing inspections as well, so that's two lots of inspections for the same provisions. The probability is that for the majority houses the statutory commitments will have been met. But for a young couple buying a new home, it's not the full structural survey you'd need, but they would do well to take advice from a third party surveyor on the quality of the new home.

Paul Overall LABC: One of our concerns is that because of the competition in the market, some Approved inspectors don't carry out any site inspections at all; they just do it from a photograph.

Rob Clay-Parker: I think that's a little but unfair – but there is some bad practice and there is an over-reliance on others to do the inspections.

The point I wanted to make in response to the question of whether a new home requires a full structural survey I would say no. You would not buy a new car and expect to take it for an MOT the next day.

Your average motor policy is £365 per year. Your average latent defects policy is £300 for a 10-year policy. The economies suggest that we cannot do a plethora of inspections. The inspections are purely to prove to our underwriters that the property is a standard risk.

Andrew Forth RIBA: Lots of parts of the country, houses are sold off plan – so they are paying whilst the property is still being built.

Question John Lytton:

What I'm interested in is how better design can translate into more fail safe builds. I think of the way we avoid installation defects. And allied to that, and that's picking up on the energy side of things – why we don't seem to be capable of building to a high quality and create errors like making holes through vapour barriers.

Answers

Andrew Forth RIBA: we don't carry out enough post occupancy evaluation to find out how the house has performed or how this design has performed. Also house builders have a range of house designs which they roll out from Newcastle to Cornwall, but the same design may not be appropriate for different conditions in those places.

Not enough information kept on individual houses that can analyse trends in defects across the country. Not good at doing that in the UK.

Question Nick Raynsford:

I would like to start by making observations of one of the graphs on the LABC submission in which you describe the type of complaints over the last 36 months and say 67% of complaints were about non-regulatory defects with the majority being related to finishes, décor and electrical appliances. We have heard the nub of the problem, that the public are not understanding of the nature of building control and warranties and assuming they are about quality and they are the people to go to with dissatisfaction about quality when they aren't. And is it not the case in almost every other industry that it would be expected that the manufacturer of the product should be ultimately responsible for the quality and should be held to account for the quality. And why is that perception allowed to be developed in the house building field that independent inspection is the answer rather than requiring that the house builders – the manufacturers – take a higher level of responsibility.

Paul Overall: Inspections about compliance with regulation and warranties, but the perception of the house holder is that it's much wider and that people are inspecting far more. The government has suggested a builder registration scheme from time to time but that always been seen as too much a regulatory burden and that would cost. But the responses we've got do raise question marks on how the quality has been checked. And how do we get industry to do better?

Nick Raynsford:

Can you name any industry where it would not be expected that the manufacturer or producer of a product should be held accountable for the quality of that product at the point of sale, and there should be instead an independent inspection to verify the manufacturer or

builder had done the thing properly. Is there any other context where that would be seen as reasonable and normal?

Phil Hammond (LABC): It's very hard for consumers. Unless they have a good developer sets out policies it's very hard to find their way through different aspects of the law. Consumer law doesn't cover house purchases and it's very much caveat emptor.

Question: Stephen Stone

I think there is some debate over construction and final finish and there are a lot of warranty holders only deal with the quality of structures, but very few deal with the quality of the final finish. And that's where customers get frustrated. As you say, if your jumper has a hole in it you take it back and get it replaced. So I think few points to my question. The vast majority of consumers like what they get and the houses do tick all the boxes. What we lack as an industry is to find a greater level of consistency. There are some very good and some very poor so there is a bit of an analysis about what makes the difference. I think there are similar things from all the presentations, apart from the RIBA which was more about design quality and space.

Common themes would be inspection frequency, skills and knowledge and supervision – of whole of supply chain. There is a bit of an issue about upskilling the workforce – which I think is under estimated. So at a time when the industry is being requested to really step up to go from 150,000 homes to add another 90,000 homes and we're already under pressure (not just a skills shortage on site, a skills shortage technically) how would each of the guys giving evidence here today be able to cope with an increase in demand? Which is 70 – 80%? Have you got the skills and systems in place to step up by 70-80%?

Answer: Ian Carey, Clerk of Works

Yes we have. We're currently working with (?) to make sure our standards are up to date and relevant. And we're trying to engage the next generation of inspectors. WE have on-going drive to partner with education establishments that provide courses. So not in front of the curve – but up there.

Paul Overall: One of the tasks of our group is to update our members whenever there is a change in the regulations and trying to upskill our workforces at local authorities. But the numbers are a real problem and with extra number of homes that is an issue. Approved inspectors are finding it an issue too.

Question: Tony Burton

The question is one of perception. What I'm hearing is that those things that need to be inspected are being inspected but the vast majority of complaints are outside that area. So the foundations, walls ok, roofs been put on, but the washing machine doesn't work or the finishes poor, which are not part of the inspection regime. So the issue for me is that relationship between the developer and the purchaser of the house. If you buy a new car get a pretty set of data – how far it can go on a tank of fuel and so on. I don't think we're getting that in the house building world. The expectation of the customer and what they are likely to get is different and the relationship with the customer is missing in the house building world. I can't find anything out there that tells me what I should get when I buy a new property.

(No one wanted to comment)

Question: Turlogh O'Brien

What is quality and in who's mind. I don't think we been through that. There are technical standards have to be complied with and perception of user and wider societal perception. There is clearly nothing for that is helping the individual user (homeowner) to tell them what can be expected. My question is what should be included in standards to check quality. And for the RIBA – what do you mean by (can't hear end of sentence)

Answers: Rob Clay-Parker

I think there are tolerances that are already in existence. There are British standards – the 8000 series. But the difficulty as always is the reinforcement of that. There is an opportunity as well in that major difficulty as I see we're building complex products in a hostile environment and it would be far better in an offsite arena. It would be much easier to monitor quality in an offsite environment.

Lord Lytton: Mentions the Barratts TV coverage of poor timber frame handling on site (in the 1980s).

So how do you crack this?

Rob Clay Parker: I have said there are some excellent construction innovations and there are some awful innovative forms of construction. We have frequently been presented with timber frame systems from overseas where they guarantee that the moisture content is less than 10%, but by the time they get here on the back of a lorry they have exceeded that, which is an issue. But there are some systems where they can guarantee meet those criteria. Arrive just in time still in shrink wrap to erect. So there are no issues with water ingress. That is the sort of thing we should be supporting and looking to for expansion of the industry.

Paul Everall (LABC): I'm not sure it's the standards that letting us down. There are standards for tolerances. It's just that the two regulatory systems we have, building control and warranties, are only addressing part of the problem.

And would it be possible to design a more comprehensive inspection system and would cover all these aspects of quality. But that would cost money because you would need longer inspection time on site and it's surely better to work with the industry to try and find a way to tackle these issues. That's why asking for the work the zero carbon hub to be extended to try and disseminate best practice

Rob Pannell (Zero Carbon Hub) – give you example, the interface between components is not addressed properly. And if we have to sort out one thing its interfaces. Germany has exactly the same problems as we do. In Austria for example there are lots of issues around overheating.

We do tend to be inward looking in terms of the solutions. But training people with the right skills in by far the biggest problem the industry needs to address. The German have excellent apprenticeship schemes – and people actually want to join the industry.

In the UK it's not such a sexy industry and that a big issue we need to address.

Ian Carey, Clerk of Works: just going back to the issue of quality, isn't it all about satisfying clients' needs?

Andrew Forth (RIBA) it's about a house that works for people to live in; a house that provides enough storage space; it's one that is designed in a way that's a good place to live for a long time. It's got good energy efficiency. And a lot of that comes down to design. We don't do enough of it for houses that we're building at the moment.

Lord Lytton: Do you think we're making houses too complicated by installing sound systems and things like that?

Phil Hammond LABC: Have got much more complex houses, underfloor heating, complex kitchens etc. And if you look at our complaints, as Nick pointed out, they are about prosaic ordinary things going wrong in the house, that because trades are crossing over each other –drilling holes, putting screws in whatever, so that leaks, common snagging issues, are pretty endemic. We have been picking them up at local authorities because consumers can't get developers to deal with them.

Tony Burton: So these are where the 67% of complaints lie. Are we seeing right across the housing spectrum? Are we seeing fewer complaints at the higher prices?

Phil Hammond: We don't know because they are unsolicited complaints that people take to local authorities because they can't get dealt with by their developers. I suspect most might be at the affordable end rather than small builders are those with strong brands.

Rob Clay-Parker (MD Insurance Services): I would tend to disagree with that. In terms of defects, we probably deal with exactly the same amount from lower and higher end of the market. In fact the issues at the higher end of the market generally tend to be bigger because of the increasing complexity of the properties.

Nick Raynsford: Can I raise a separate issue of building information modelling (BIM) is the answer to the sort of problems that have been described? With trades compromising the work of other trades because the whole thing has not been properly integrated? Is that a way forward?

Paul Overall LABC: In theory it might be. But how long is it going to be before BIM implemented at the small end of the builder market. The perception I have it that those builders who want Government work have an interest in BIM, but it's not really filtering down.

Phil Hammond LABC: Most people accept that over 300,000 left the industry at the start of the recession and we don't know how those people have been replaced. And the number of people leaving colleges is also declining. Moving the agenda on to something as sophisticated as BIM when not even got site agents or site managers and not enough skilled trades people would seem to be a complexity too far.

Andy von Bradsky: Issue for me how do you ensure you get quality in places like Hartlepool and not just Cambridgeshire. The consistency issue seems to be a much bigger problem. I think in defining what we mean by quality is an essential task for this inquiry. I've broken it down into design, construction performance and on site activity. And it seems to me that a lot of the reports focus very heavily on defects on site. And it has surprised me the degree to which that has come across.

Two fundamental themes that resonate with industry at the moment. There is the issue of regulation and then the needs of the consumer and I have been heavily involved in looking at how you might better inform the consumer about performance of the homes and how you do that in a very simple way. All the ones I've seen that are supposed to be about providing information to the consumer seem to be mired in technical detail, which doesn't resonate at all with the consumer. So I'd be interested to know from the panel how they think better information could be provided to the consumer.

The second point about regulation seems to me we can regulate for quality as well. We've gone through the housing standards review and there are some good outcomes but there were some missed opportunities as well. My question is do we know the answer to these issues and how long would it take before we could progress to better standards for energy performance?

Zero Carbon – about building information management not modelling. In terms of quality – should use word performance.

Talking about AIM4C project and good energy performance – it's about breaking down the barriers for integrated contractor performance. Sometimes spot issues coming down line, but contractor will sometimes hold that back because variations will give profit on the job. Tried very hard to break that down by getting people to share information and map the process to try and move some of those problems.

What we also discovered was that those that had the best performance testing on site often had the lowest energy bills. In terms of ventilation systems on site and some of the problems what we discovered was that it comes down to flow of information which is absolutely critical. So it comes down to contractor incentives.

Paul Overall: We were disappointed in Government change in direction regarding zero carbon energy. But at the same time it gives us the chance to close the performance gap. So the time we have now can be used to bring people up to the current standards, before going further.

The point I wanted to make was its difficult to find who represents the consumer. And if one of the things this inquiry has highlighted is the need to talk more closely to the consumer.

Rob Clay-Parker: A lot of the major developers do provide a home user guide – The problem we find sometimes is that literally people use the property in the wrong way like using the radiator for drying clothes and if it's a property that is particularly airtight then that can

cause problems. And it's educating the occupier how to use the property. So that is something that does happen. But there isn't a standard to how or what should be achieved.

Andy Von Bradsky: Have you spoken to any other warranty providers to discuss how you might make something generic? Do the warranty companies talk to each other? They don't and that I think comes about because of the nature of the competitiveness in the industry which creates reluctance I would suggest.

James Bush, MDIS: just to contradict Rob, we do discuss a number of issues in the industry. I don't think we've addressed that particular issue. And I think that particular issue is something we should consider doing.

Andy Von Bradsky – the code (which code?) doesn't cover quality issues – more like contractual arrangement so may be expanded to include certification and quality for the consumer.

Question: Oliver Colvile

If I'm someone who has bought themselves a property and I have problems with it, who on earth do I go to to help get it sorted out; and if I wanted to go to someone to take ownership of the problems where do you think I should I go? I think we should be able to take it to an ombudsman. Who do you think should take ownership of this?

Paul Overall LABC: the developer should take ownership of it. That's who has the responsibility of delivering the product.

Oliver: I've had issues in my constituency where there have been problems and eventually it's gone to the developer but it's very difficult because they make very sure not to say anything that could be used in a court of law against them and that's the real issue. They are reluctant to make a commitment because they are worried that's where it's going to end up.