# Management of post-completion repairs

## A best practice guide for home builders

NHBC Foundation
*Housing research in partnership with BRE Trust*

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January 2011

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# FOREWORDS

I was delighted to be asked by NHBC to head up their Task Group and support their efforts to find ways to assist the home building industry improve levels of customer satisfaction.

One of the projects undertaken was to try ascertain how home builders see their management processes in relation to post-completion repairs.

The research exposed a trend amongst home builders which showed they were making a real effort to ensure that repairs were undertaken. However, the research also revealed that less effort was expended in understanding why things had gone wrong in the first place. The gathering, collating and analysis of all the causes and costs involved in warranty work and the subsequent creation of quality feedback loops will help eliminate at source, those generic issues that continually have an adverse impact on the quality of new homes.

It is clearly beneficial for home builders to have a better understanding of the additional costs associated with repairing homes during the first year or so of occupation. Whilst this may not always directly affect home buyers, the better management of the repair process together with a fuller understanding of what went wrong will help cut down on many repetitive faults. It will also reduce the need for post-completion repairs. This will deliver real benefits in terms of increased levels of home buyer satisfaction and reduced construction costs for home builders.

This report is the output from that research and gives some simple best practice advice for home builders to consider incorporating into their processes. Having clear, well understood and well managed systems will lead to improved customer satisfaction and increased competitiveness.

**John Callcutt**
Chairman, The Callcutt Task Group

The NHBC Foundation is delighted to support the excellent work of the Task Group chaired by John Callcutt. The work they have done is in line with one of the Foundation's main research strategies – that of the consumer.

This report is based on the findings of surveys with real people in the home-building industry and how they manage post-completion repairs. Whilst most of the industry does capture information in respect of what defects occur in new homes and how to put them right, the capture and understanding of the costs involved seems less secure. This report contains some simple best practice advice based on the surveys' findings.

Assisting the home-building industry to better understand the complete management of post-completion repairs can only lead to a more efficient industry, better built homes and improved customer satisfaction.

**Rt. Hon. Nick Raynsford MP**
Chairman, NHBC Foundation

# ABOUT THE NHBC FOUNDATION

The NHBC Foundation was established in 2006 by the NHBC in partnership with the BRE Trust. Its purpose is to deliver high-quality research and practical guidance to help the industry meet its considerable challenges.

Since its inception, the NHBC Foundation's work has focused primarily on the sustainability agenda and the challenges of the government's 2016 zero carbon homes target. Research has included a review of microgeneration and renewable energy techniques and the groundbreaking research on zero carbon and what it means to homeowners and house builders.

The NHBC Foundation is also involved in a programme of positive engagement with government, development agencies, academics and other key stakeholders, focusing on current and pressing issues relevant to the industry.

Further details on the latest output from the NHBC Foundation can be found at www.nhbcfoundation.org.

## NHBC Foundation Advisory Board

The work of the NHBC Foundation is guided by the NHBC Foundation Advisory Board, which comprises:

**Rt. Hon. Nick Raynsford MP**, Chairman

**Dr Peter Bonfield**, Chief Executive of BRE

**Professor John Burland CBE**, BRE Trust

**Imtiaz Farookhi**, Chief Executive of NHBC

**Neil Jefferson**, Chief Executive of the Zero Carbon Hub

**Rod MacEachrane**, NHBC Director (retired)

**Geoff Pearce**, Group Director of Development and Asset Management, East Thames Group

**David Pretty CBE**, Chairman of the New Homes Marketing Board

**Richard Simmons**, Chief Executive of CABE

**Professor Steve Wilcox**, Centre for Housing Policy, University of York

# CONTENTS

# 1 Executive summary

NHBC brought together a Task Group (see Appendix A) under the leadership of John Callcutt to research how home builders address concerns on quality, service and customer satisfaction with new homes. This report is one of the outputs of the Task Group, and presents the findings of its research into how home builders manage post-completion repairs.

The key findings of the research are as follows:

- All large builders budget for post-completion repairs, but only 72% of all home builders surveyed set a budget for those repairs, indicating that smaller firms are less likely to budget for repairs.
- The most common budgeting method for post-completion repairs is to allow a per-plot amount.
- Only 51% of respondents record the actual cost of repairs, while 94% claimed to record the nature of the repairs.
- 75% of respondents who record the actual costs and nature of repairs analyse their experience and feed this back into the design, materials buying and construction processes.
- Most home builders (almost 80% of the survey respondents) do not compare their practice and performance in managing repairs with their competitors' approaches.
- Almost all home builders recover repair costs from their subcontractors where appropriate.

The research has led to the following recommendations:

- A best practice model (Figure 1) is recommended for managing post-completion repairs.

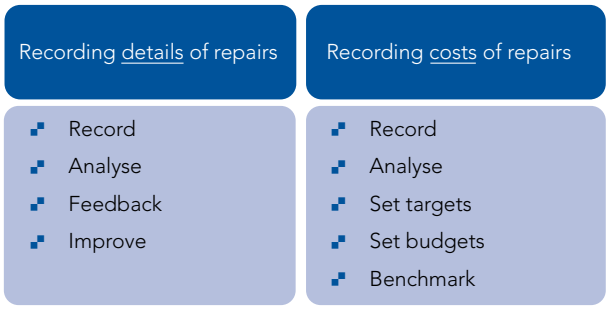



**Figure 1** Post-completion repair best practice model.

- Home builders should improve those aspects of the after-sales process that cause most financial, emotional and time stress for homeowners by:
  - explaining what the home builder is and is not responsible for repairing
  - explaining what the homeowner is responsible for maintaining
  - providing an effective process for reporting and resolving repairs
  - setting realistic timescales to carry out repairs
  - completing repairs properly, on time and as promised.
- Training modules should be developed to improve understanding of the importance of the customer journey and effective handling of post-completion repairs. The modules should be incorporated into NVQ courses for sales and construction staff. An NVQ for customer service staff should be considered.
- Benchmarking arrangements should be developed to share and disseminate best practice in managing post-completion repairs.

# 2 Introduction

In 2008, NHBC conducted a desk study of customer satisfaction literature (see Appendix B) to identify any "knowledge gaps". The study focused on the level and measurement of home buyers' satisfaction, and the areas that affect perceptions of their home. The study found that there was very little new research published and that many researchers shared and acknowledged each other's findings, which appeared to perpetuate similar and unaltered views and opinions.

Notwithstanding the shortcomings referred to above, the NHBC study found that the published research focused on four areas that influence customer satisfaction, which can be summarised as follows:

## 2.1 Quality

- No single standard describes or defines the finished quality required of a new home.
- Quality is usually divided into service quality (the experience a homeowner has of a home builder's service before and after a sale) and technical quality (the "hard" issues such as the quality of materials and workmanship).
- There is a lack of information on quality control procedures operated by home builders; there is no body of knowledge on how they finish and present homes to their buyers, or on what constitutes good customer service.

## 2.2 Snagging

- Because there is no single standard for the finished quality of a new home, the level of finishing defects and snags reported by various researchers varies considerably due to the adoption of different standards and approaches.
- Most defects reported are in finishes (circa 75%) and most of these are due to workmanship (circa 65% – but on a small sample).

- Defects are usually divided into three areas:
  - technical/functional
  - omissions
  - aesthetic/finishes.
- Customers' perception of, and satisfaction with, technical quality is influenced mostly by the aesthetic appearance of their new home.

## 2.3 Consumer legislation

- Consumer protection for people buying a new home was thought to be weaker than most other products, although few consumer purchases apart from homes are made with the benefit of legal advice. However, whilst the rights of a purchaser are largely contractual, ie contained in the purchase agreement rather than legislative, there is a significant quantity of legislation that applies to the home-building industry that is based on consumer protection (for example, Building Regulations, standards and planning acts). The Consumer Code for Home Builders can also be considered as conferring additional rights (www.consumercodeforhomebuilders.com).
- The Trade Descriptions Act does not apply to new homes. Some measures suggested by the researched documentation range from the right to delay completion through to independent third party checks and retention of sums from the final account.

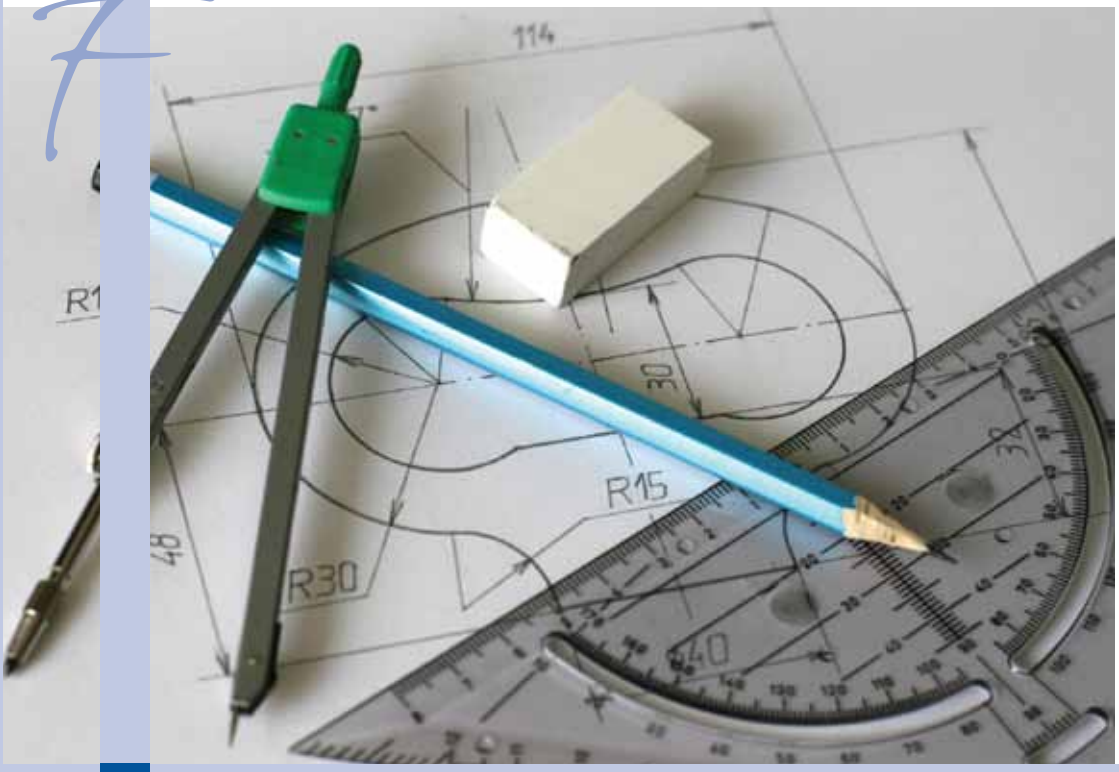
## 2.4 Overall satisfaction

- There is limited recent published information on satisfaction with new homes. There is no information published on how home builders achieve or maintain good ratings, nor is there much guidance on good practice.
- In addition to concerns raised in an Office of Fair Trading (OFT) Market Study[1] into the home-building industry, a number of factors identified by NHBC point to the need for further action by home builders to improve homeowners' satisfaction. These are as follows:
  - The NHBC Your New Home customer satisfaction surveys[2] show that homeowners' satisfaction, although high in the first few weeks of ownership, decreases during the first nine months of ownership.
  - Some factors beyond a home builder's control, such as parking provision, housing mix (both elements of the planning process) and relationships with neighbours, can contribute to the reduced satisfaction. However, a significant cause of the reduction is an after-sales service that fails to deal promptly with defects in the home when it is handed over and those that occur after occupation.
  - The 2007/08 Home Builders Federation (HBF) Customer Satisfaction Survey[3] showed that customer satisfaction (as measured shortly after handover) had not, on average, seen any improvement on the previous year and that responses to the question "Would you recommend your builder to a friend?" had fallen slightly. (More recent HBF Customer Satisfaction Survey results have started to demonstrate an improvement in levels of satisfaction, reflecting the work undertaken by many, including the industry, to make changes.)
  - The number of minor items of defective or incomplete work identified in NHBC's final inspections during 2007/08 that are not being rectified before a home is occupied.
  - The use of NHBC's dispute resolution service during 2008/09 and the number of minor items noted at final inspections (and which should have been remedied before occupation) appearing in dispute resolution investigations.

- The results of commercial snagging companies on a small number of homes selected by them were casting an unfavourable light on the house building industry.

To consider these "external" and "internal" factors, NHBC brought together a group of key stakeholders and NHBC staff under the leadership of John Callcutt (see Appendix A) and launched an initiative to investigate and address concerns about quality, service and customer satisfaction with new homes. This report is one of the outputs of the Task Group and focuses on gaining a better understanding of how the industry calculates the cost of post-completion repairs and customer service, and how this process is managed.

Based on the above research, the Task Group was asked to identify actions that could be taken by NHBC and the industry to meet homeowner expectations, and improve after-sales service and customer satisfaction.




# 3 Research objectives and methodology

The purpose of this research was to investigate how the home-building industry manages post-completion repairs, with special reference to managing the associated costs.

The research covered three areas:

- responsibility for undertaking repairs
- how the costs associated with the repairs are budgeted or anticipated
- the systems or procedures in place to control the whole process.

It was also the intention to research how well the industry understands and manages this process – and whether that understanding is used to make improvements to process and design.

Finally, the research aimed to identify best practice with a view to documenting this as a guide for the home-building industry.

The research was carried out by interviewing home builders face-to-face and by telephone. The respondent profile for the surveys is given in Appendix C.

## 3.1 Stage 1: Face-to-face interviews

The initial phase of the interviews was face-to-face with a small group of home builders of different sizes. This was done in order to gain a better understanding of the processes, practices, attitudes and opinions towards home builder management of post-completion repairs and their costs. Those interviewed included managing directors, customer services managers and operations directors.

The survey focused on home builders grouped by size to ensure that the research results adequately reflected the different approaches adopted by differently-sized businesses.

All interviews were in the Midlands and South of England, and took place during June 2009. The results of these interviews were used to shape the second stage of the research.

## 3.2 Stage 2: Telephone interviews

Using a set of questions refined from Stage 1, a series of telephone discussions with 45 home builders was undertaken. The respondents were selected to reflect the overall British home-building industry.

Although large home builders are responsible for the majority of new homes that are built in the United Kingdom, the introduction of smaller home builders was important as it was believed that, with a production rate of up to about 100 houses per annum, smaller builders were able to service customers on a one-to-one basis and know each customer even at managing director level. Above this number however, a different approach is needed to run a larger business serving larger numbers of customers.

# 4 Home builder management of post-completion repairs and their costs

## 4.1 Undertaking post-completion repairs

The research showed that most home builders, regardless of size, use a team of in-house maintenance staff (Figure 2). This is the one area where there seems to be some commonality, considered by all to give them greater control over repairs, costs and manpower.

Whilst the preference is for an in-house team to deal with as much as possible, this was generally only for routine repairs. In-house maintenance teams were considered to be more multi-skilled and used to dealing with homeowners. Most home builders had a process for involving their subcontractors for specialist work (for example, plumbing or electrical problems). Work was passed to others when workloads or resources were stretched.

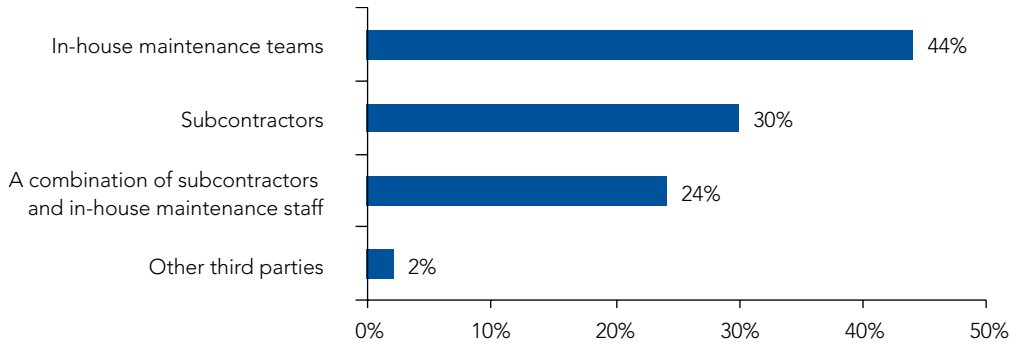



**Figure 2** Who carries out post-completion repairs?

The decision on who to give the work to seems to depend on the "type" of work and whether or not it is "specialist". The extent to which the work is considered an emergency can also be a factor in the decision making (Figure 3).

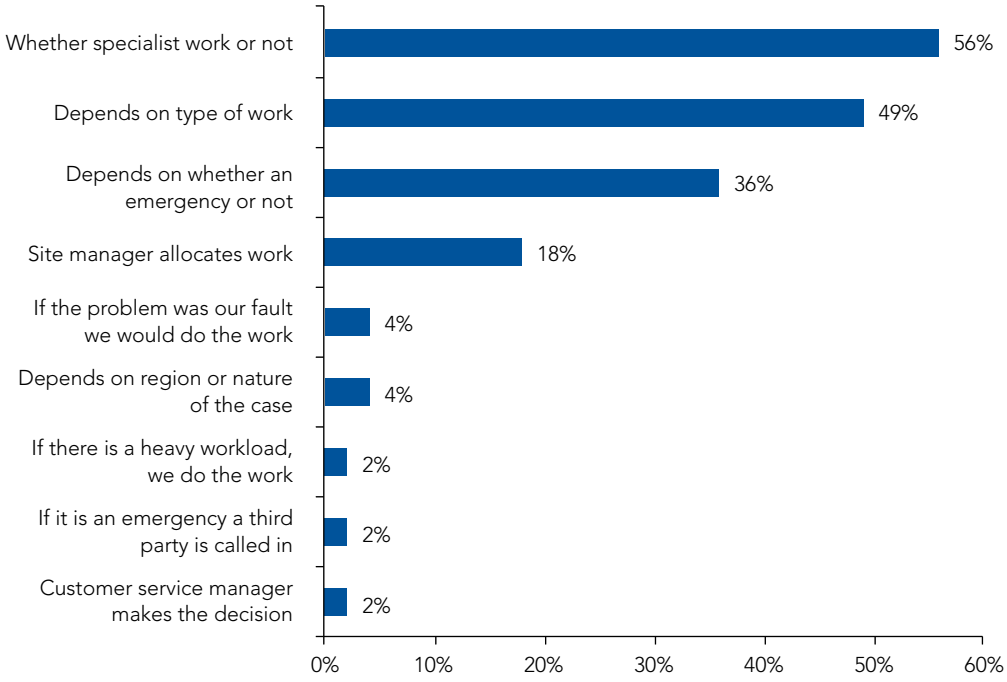



**Figure 3** What influences the decision on who does the work? (More than one answer given by some respondents.)

It was interesting to note a conflict in the research findings; while most home builders said they preferred to use their in-house maintenance teams, the researchers were also advised that they tried to involve their subcontractors whenever they could and make them take responsibility for remedying their own defective work.

This apparent conflict could possibly be explained by whether the development was still under construction or had been completed for a while. Sites still under construction would be more likely to use the original subcontractor to do the repair, whereas mature sites would be more likely to use the in-house maintenance teams for repairs.

## 4.2 Timetabling post-completion repairs

As can be seen from Figure 4, most respondents claimed to set timescales for their in-house teams, subcontractors or third parties on when they should start and finish remedial work; some 7% claimed not to set timescales of any sort. Not unreasonably, the nature of the work is the main factor affecting job completion timescales, with a number of respondents claiming that electrical, plumbing and gas-related jobs take overall priority.

Of the respondents who claimed not to set timescales on remedial work, they said that work priority is based on the following:

- "emergencies take precedence"
- "when convenient"
- "customer service decides".

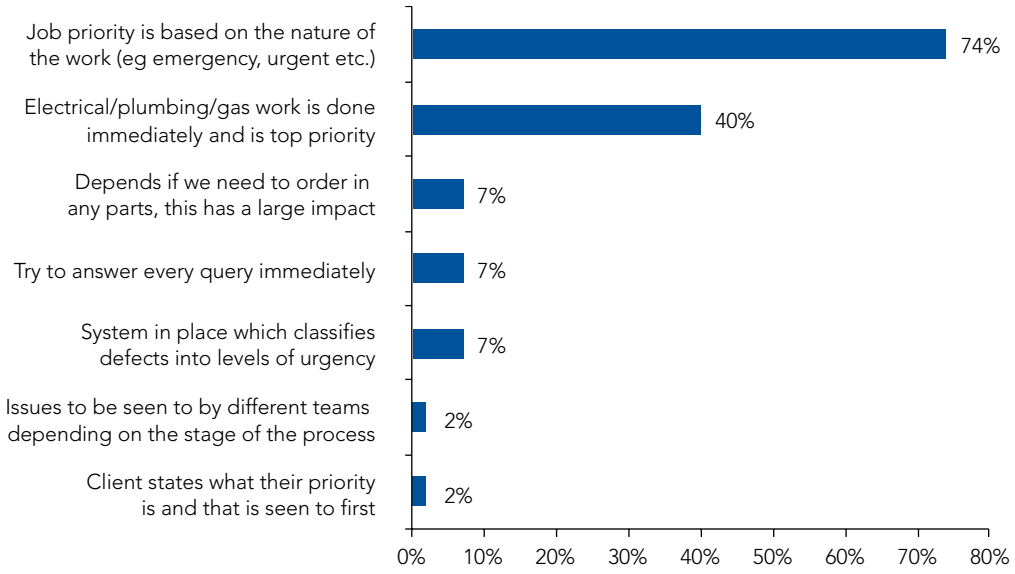



**Figure 4** Managing timescales for remedial work (more than one answer given by some respondents).

## 4.3 Budgeting for post-completion repairs

In one form or another, most home builders budget for their post-completion repairs, usually based on historic data and experience (Figure 5).

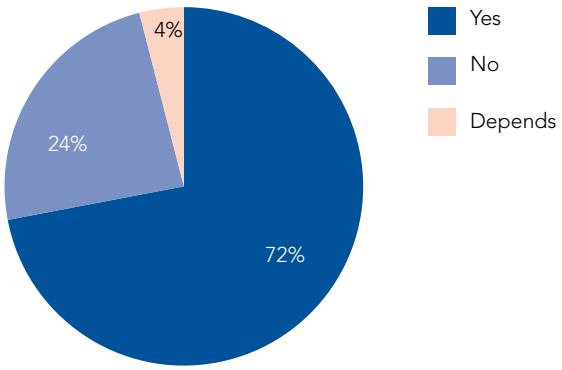



**Figure 5** Is a specific budget set for post-completion repair work?

They either treat it as part of the development cost (the project budget) and write it back to profit if not used, or set up a contingency for post-occupation work. The decision on how much to allocate also varied; some home builders (usually the smaller ones) used just simple experience, a knowledge of their house types and customers, with values ranging from £200 per plot for apartments to £500 per plot for detached houses. Others (usually the larger ones) relied on documented and statistical evidence.

The research indicates that home builders use various ways (as shown in Figure 6) to budget for post-completion repairs – some on a per-plot basis (the most common approach), as a global figure for the development, some on a per-site basis and some as a business overhead.

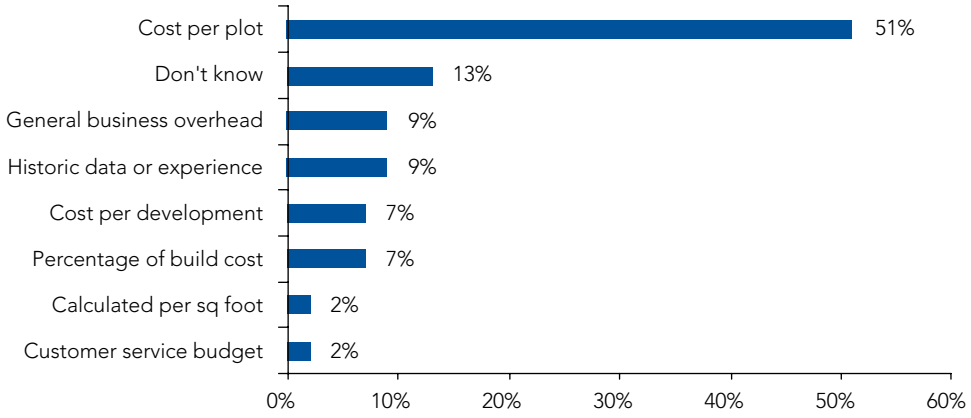



**Figure 6** Calculation of cost estimates for post-completion repairs.

## 4.4 Managing post-completion repairs and costs

The research indicates that the majority of the larger home builders have dedicated systems for recording, analysing and learning from post-completion repairs. Smaller home builders were less likely to have a formal system, with some having no systems at all.

The experience gained by home builders from recording and carrying out repairs can have a large impact on their current construction processes, materials and components used, after-sales service, and customer service.

### 4.4.1 Recording of repairs and costs

Although only 57% (Figure 7) of the respondents to the survey claimed to always record the cost of repairs, most of the larger home builders were "very confident" in their recording of costs and the nature of repairs. Smaller home builders were less likely to record all the costs.

Comparing the responses to the questions regarding budgeting for repairs (where 72% of respondents claimed to budget for repairs – Figure 5) with the responses for recording of actual repair costs (57% as shown in Figure 7) suggests that the budgeting process, if it is based on historical cost analysis, is an area for improvement.

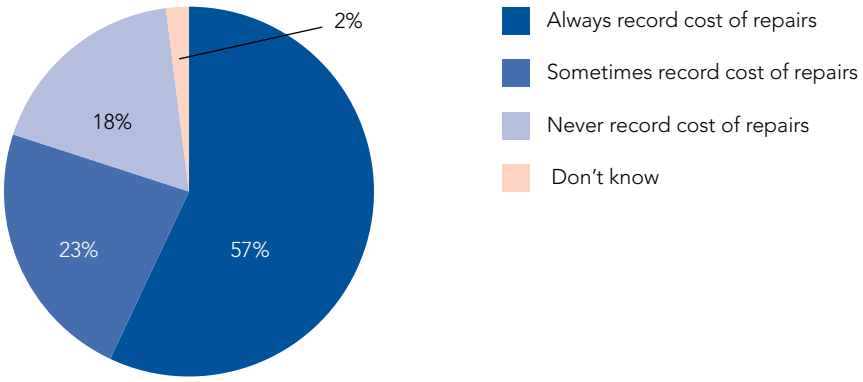



**Figure 7** Recording cost of post-completion repairs.

### 4.4.2 Recording of defects

Surprisingly, compared to the recording of costs, 94% of the respondents claimed to record the nature of post-occupation defects (Figure 8). A possible explanation for defects being recorded more thoroughly than costs is often because the element of remedial work being carried out by in-house maintenance teams is more difficult to cost. Detailed time sheets would need to be kept with regard to each element of cost within each unit; this is harder and more time consuming than simply fault identification.

The benefits of accurate cost versus defect data are that the budgets become more accurate, the quality feedback loop is more accurate and more costs are recoverable from the subcontractor responsible.

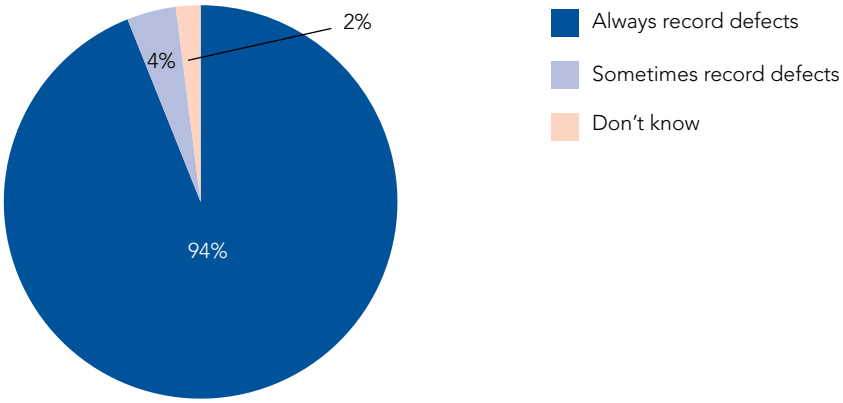



**Figure 8** Recording the nature of post-completion defects.

### 4.4.3 Analysing costs and experience

When it comes to analysing the experience of undertaking repairs and what they cost (Figure 9), this again depends on the size of the home builder. The larger home builders tend to have systems in place, a number of them with dedicated in-house databases used to track repairs and recording costs on a plot-by-plot basis. There are various off-the-shelf computer software systems available to assist in better managing the recording of complaints, repairs and cost control.

Whilst the smaller home builders generally did not have a system in place for analysing costs and experience gained from doing repairs, several reported that they were actively investigating this with a view to doing something more detailed.

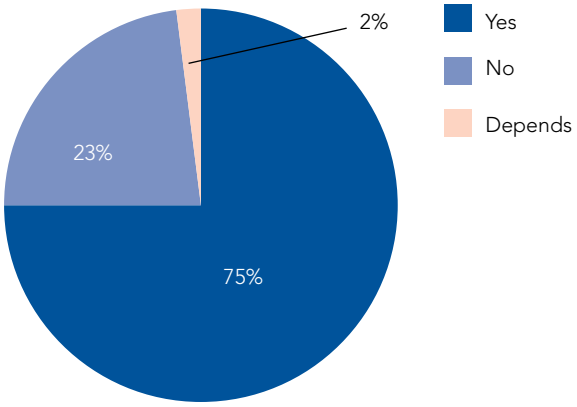



**Figure 9** System for analysing repair and cost experience.

Of those respondents surveyed who sometimes or always recorded repairs, three-quarters claimed that they had systems in place for analysing their experience.

Approaches ranged from weekly reviews at construction meetings, through to construction conferences and full management board reports.

Some home builders picked out the top 10 issues, which were then looked into more deeply to see whether it would be cost-effective to introduce permanent changes to materials, design or construction. Some home builders however analysed their experience on a more ad-hoc basis.

All respondents surveyed indicated that they learned from analysing the nature of defects and the repairs required and several examples were given of where changes had been made as shown in Figure 10.

A number of home builders have also introduced a pre-handover "snagging check" as a process to try to deliver a property as defect-free as possible.

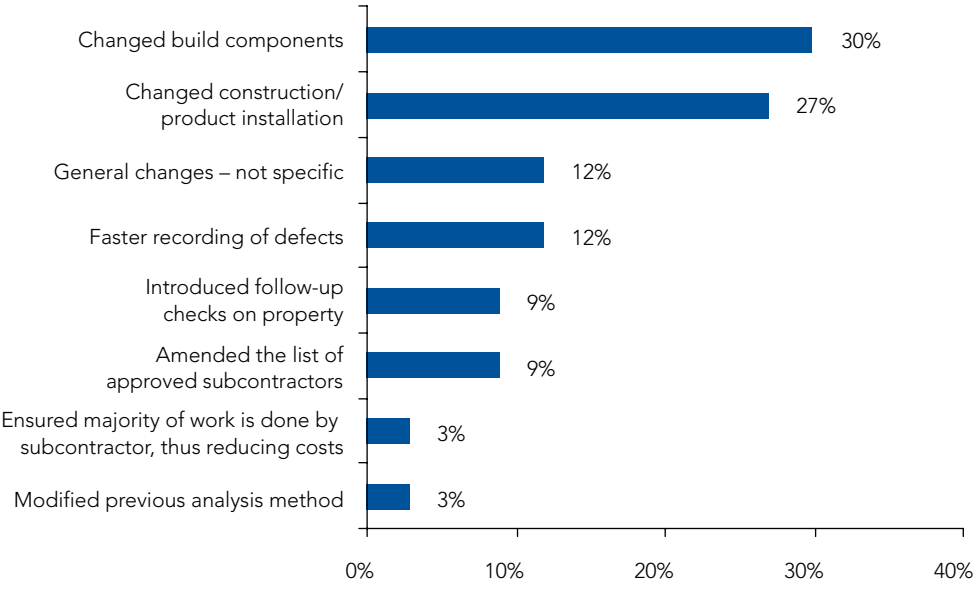



**Figure 10** Examples of changes made based on analysing repairs (more than one answer given by some respondents).

### 4.4.4 Management of repair times

Home builders who have systems to log customer calls about repairs can then prioritise them, with timescales being set depending on the importance of the repair. Setting importance levels can be difficult however; the general picture appears to be for emergency repairs to be set for completion within 24 hours of identification, and other work ranging between seven and 28 days.

These timescales were common amongst a number of the survey respondents. Most of the larger home builders had regular review meetings to resolve larger, more frequent problems.

## 4.5 Recovering costs from subcontractors

In the home-building industry, where subcontractors commonly undertake most of the work, it is standard practice to hold a retention on the payments due to them; sometimes this is on a per-invoice basis, sometimes this is deducted from the final invoice – the former being the most common practice.

In half of the respondents surveyed, the retention is held for two years (in line with the home builder's liability period in the NHBC warranty). A number of home builders stagger the release of retention money, sometimes using the builder's customer service department in assisting with the decision on whether to release the retention, or to hold on to some or all it. A common approach, for example, was to withhold 5%, with 2.5% released when the development was completed and the balance released after 12 months. The approach adopted by all of the respondents was that whoever was responsible for the original work that went wrong bore the cost of the repairs wherever possible. The only exception to this appears to be minor finishing defects, touching up, and so on, where most of the respondents tended to use their in-house maintenance teams and cover the costs themselves. Clearly, if the subcontractor had ceased trading, then all costs would have to be carried by the home builder.

Where third parties are used to carry out post-completion repair work, either invoices are issued to the original subcontractors for any work carried out or deductions are made from the retentions or from subsequent invoices received from the subcontractor.

## 4.6 Findings and conclusions

The research set out to investigate whether it was possible to help the industry better manage and reduce repair costs. From the results (Figure 7), it was of concern to note that only 57% of the respondents claimed always to record the costs; 23% only "sometimes" recorded costs, whilst 18% "never" recorded the costs. In addition, 23% did not have a system in place for analysing their experiences (Figure 9).

It was also apparent that what was included by those firms who did record costs varied widely – some included only labour or material costs. Others included after-sales management costs. Most did not capture all of the costs involved.

Many home builders do not appear to know how well they were doing in comparison with their competitors on the cost of post-completion repairs (Figure 11) – there was little evidence of experience of learning from others; 78% of the respondents did not compare or benchmark their processes against fellow developers.

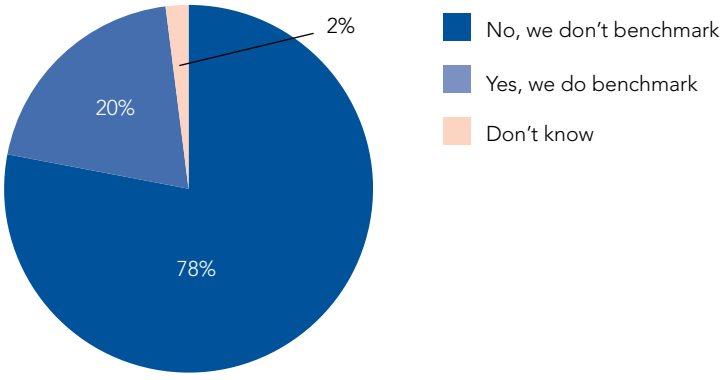



**Figure 11** Benchmarking of post-completion repair costs against other developers.

Of the 20% that said they did benchmark their performance, 66% said they used independent consultants. The remainder referred to the NHBC and HBF customer satisfaction surveys; it should be noted, however, that neither of these looks at the costs or the nature of post-completion repairs.

From an analysis of the research, the best practice model for managing post-completion repairs appears to be to:

- fully record the nature of defects, how they are repaired and their repair costs
- analyse the effects on the product and customer satisfaction
- feed back analysis to improve the design, materials or construction
- budget for the cost of post-completion repairs on a per-plot basis and vary the allowance according to property size
- feed back to subcontractors to bring about changes to build practice, supervision and sign off
- develop industry-wide benchmarking arrangements to enable comparison and continuous improvement.

# 5 Recommendations

As a result of the research undertaken, there is a clear need for home builders to adopt a more systematic approach to recording the nature and cost of post-completion repair.

## 5.1 Best practice model

The best practice model shown in Figure 12 is recommended:

In respect of the details of post-completion repairs:

- Record: Home builders should use a dedicated system that records all details of remedial work carried out, preferably by plot/development, irrespective of whether it was done in-house or by subcontractors.
- Analyse: Regularly undertake root-cause analysis with construction management and customer services to identify the underlying causes of defects leading to post-completion repairs.
- Feedback: Feedback the outcomes of the analysis into the design of homes and the materials used into amended procedures used to manage the construction process.
- Improve: Use what has been learned from the whole process to bring about changes and reduce the likelihood of the problems recurring.

Knowing what has gone wrong and trying to sort it out is only part of the story; knowing the costs of such repairs and understanding how these can be better managed will lead to a more efficient and profitable business. The analysis of subcontractor performance on quality and post-completion warranty work is also vital; workmanship is probably the single most important factor in achieving good quality. It is only by assessing the initial subcontractor tender price with the full knowledge of final outcome costs that subcontractor tender submissions can be meaningfully compared.

Therefore, in relation to the costs of post-completion repairs:

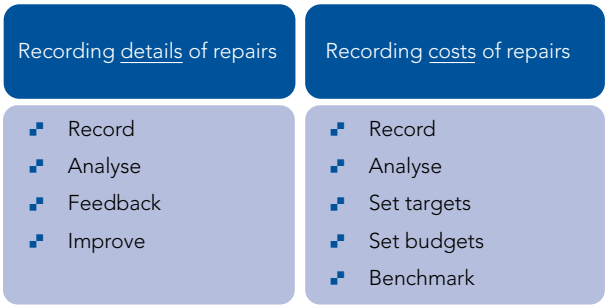



**Figure 12** Post-completion repair best practice model.

- **Record:** Record all of the costs associated with carrying out the repairs; it was clear in the research that fewer home builders record the costs of repairs than record the nature of repairs. Few recorded all of the costs involved (including management time, for example).
- **Analysis:** Analyse all of the costs of undertaking post-completion repairs. This will help to identify what is being spent and where savings can be made.
- **Targets:** Set targets for reducing repair costs. These should be linked to the changes driven by the analysis of the root cause of the problems and the changes proposed to reduce or prevent their incidence.
- **Set budgets:** Incorporate into the business plan sufficient budget to cater for repair costs. Such a system will lead to a better and more accurate understanding of what should be budgeted for on future developments.

## 5.2 Undertake prompt repairs

Home builders should focus improvements on those aspects of the after-sales process that cause most financial, emotional and/or time stresses to homeowners:

- prior to legal completion, explaining what the home builder is and is not responsible for repairing
- prior to legal completion, explaining what the homeowner is responsible for maintaining
- providing an effective process for reporting and resolving repairs
- setting realistic timescales to carry out repairs
- completing repairs properly, on time and as promised.

## 5.3 Processes for emergency repairs

Home builders should have specific and effective processes for dealing with emergency repairs. Whilst there may be arrangements for ensuring that original subcontractors carry out emergency repairs, this should not be allowed to get in the way of undertaking prompt repairs on the homeowner's property.

## 5.4 Best practice training

The research has demonstrated a wide variety of approaches to the processes of managing and understanding the issues of post-completion repairs that should be developed.

Dissemination of best practice could be achieved by developing a series of training modules to improve awareness and understand the importance of having arrangements

in place for effective handling of post-completion repairs – training for construction, customer service and maintenance staff.

This training could be added as a refinement of existing training modules or as a development of stand-alone open, or in-house, courses. Given the importance of this to the home-building industry, consideration should be given to incorporating the subject into the current NVQ courses for sales executives, site managers and construction directors. Consideration should also be given to the development of an NVQ for customer service staff. On-line e-learning modules would be a useful facility for refresher training of staff.

## 5.5 Industry benchmarking

The lack of a recognised system of comparison between home builders of their practical performance in managing post-completion repairs suggests that a benchmarking "club" or similar arrangements should be developed.

# REFERENCES


1 Office of Fair Trading. Homebuilding in the UK: A market study; OFT 1020. London, Office of Fair Trading, 2008. Available from www.oft.gov.uk/OFTwork/markets-work/completed/home1.

2 NHBC undertakes regular satisfaction surveys of homeowners who have been in occupation for between nine and 12 months. The detailed results for each NHBC registered builder are presented to them confidentially, although global anonymous figures are used by NHBC for other purposes.

3 HBF National New Home Customer Satisfaction Survey is an annual self-completion survey of HBF member builder customers. Available from www.hbf.co.uk/Customer-satisfaction-5ea14b0.

# APPENDIX A

## The Callcutt Task Group

The Callcutt-led NHBC initiative was set up to steer the NHBC's best practice work. The terms of reference charged the Task Group with examining and responding to the concerns on quality, service and customer satisfaction expressed by Government, OFT and from within the home-building sector.

The group was comprised of:

- **John Callcutt**, Chairman
- **Stewart Baseley**, Executive Chairman, HBF
- **Ian Davis**, Operations Director NHBC
- **Jonathan Fair**, Chief Executive, Homes for Scotland
- **Imtiaz Farookhi**, Chief Executive, NHBC
- **Derek Field**, Operations Director, McCarthy and Stone Retirement Lifestyles
- **Mike Freshney**, non-Executive Director, Cala Homes, member of the NHBC Standards Committee
- **Sir Graham Hart**, non-Executive Director, NHBC and Chairman NHBC's Consumer Committee
- **David Pretty CBE**, Chairman, New Homes Marketing Board
- Project Leaders, **Geoff Egginton**, NHBC's Regional Director for North East England and **Chris Derzypilskyj**, NHBC Technical Officer, together with an internal project team of NHBC staff from Technical Services, Business Development, Standards & Technical and Homeowner Research.

The group aimed to come up with specific recommendations on processes that could be put in place to assist the home-building industry improve customer service, and as a consequence, improve levels of customer satisfaction.

Part of the review process by the Task Group was to consider the findings of the research into how the home-building industry managed the repair of homes after legal completion and occupation, and whether a best practice model could be developed.

The research enabled the Task Group to develop a best practice model and to make recommendations on how this could be adopted so as to assist in the improvement of customer satisfaction.

In the view of the Task Group members, the aspirations in this area have been met.

# APPENDIX B

## Customer satisfaction literature

The following sources were the subject of NHBC's desktop study researching customer satisfaction with new homes:


- AlNakeeb A, Williams T, Hibberd P and Gronrow S. Measuring the effectiveness of quality assurance systems in the construction industry. Property Management, 1998, 16 (4) 222–228.
- Auchterlounie T and Hinks J. The measurement of customer satisfaction in the private house building sector. London, RICS Foundation, 2001. Available from www.rics.org/site/scripts/download_info.aspx?fileID=2267&categoryID=559.
- Barker K. Review of housing supply, delivering stability: Securing our future housing needs. Norwich, HMSO, 2004.
- BS 8000 Suite. London, BSI.
- Callcutt J. The Callcutt review of housebuilding delivery. London, HMSO, 2007.
- Construction Industry Board/Building. The improving performance of the UK construction industry. London, CIB, 1999.
- Disney J. Customer satisfaction and loyalty: the critical elements of service quality. Total Quality Management, 1999, 10 (4/5) S491–S497.
- Early J F. Strategies for measurement of service quality. Quality Forum, 1991, 17 (1) 10–14.
- Egan J. Rethinking construction: The report of the Construction Task Force. London, HMSO, 1998.
- English Partnership. Places homes people, policy guidance, English Partnership's quality standards – delivering quality places. Revised 2007. Available from www.englishpartnerships.co.uk/docdownload.aspx?doc=Quality%20Standards_1.pdf&pid=6 4241OphaK9K2AAJhl5lwMwRzZ4YhYXY.
- Ermer D. Using QFD becomes an educational experience for students and faculty. Quality Progress, 1995, May 131–136.
- Georgiou J, Love P and Smith J. A comparison of defects in houses. Journal of Structural Survey, 1999, 17 (3) 160–169.
- Housing Forum/MORI. Housing Forum National Customer Satisfaction Survey. 2000/2001/2003. Available from www.housingforum.org.uk.
- ISO 9000. London, BSI.
- Kristensen K, Martensen A and Gronholdt L. Customer satisfaction at Post Denmark: Results of application of the European Customer Satisfaction Index Methodology. Total Quality Management, 2000, 11 (7) S1007–S1015.
- Latham M. Constructing the Team – The Latham report: Final report of the government/industry review of procurement and contractual arrangements in the UK construction industry. London, HMSO, 1994.
- Love P and Li H. Quantifying the causes and costs of rework in construction. Construction Management and Economics, 2000, 18 (4) 479–490.
- NHBC Standards. Milton Keynes, Bucks, National House Building Council, 2007.
- OPSI. Sale and Supply of Goods Act 1994. Available from www.legislation.gov.uk/ukpga/1994/35.

- Parasuraman A, Zeithaml V and Berry L. A conceptual model of service quality and its implications for future research. Journal of Marketing, 1985, 49 41–50.
- Pitcher M. It's about soul. Housebuilder (June 2002).
- Scottish Consumer Council. Regulation of the new house building market in Scotland. Glasgow, Scottish Consumer Council, 2005.
- Sommerville J, Craig N and Ambler V. Managing the snagging process. London, RICS Foundation, 2005. Available from www.rics.org/site/scripts/download_info.aspx?fileID=2864&categoryID=563.
- Sommerville J and Craig N. Functional and technical quality in new build homes in the UK: The snagging problem. London, RICS Foundation, 2006. Available from www.rics.org/site/scripts/download_info.aspx?fileID=3241&categoryID=564.
- Sommerville J and McCosh J. Defects in new homes: an analysis of data on 1696 new UK houses. Bingley, Emerald Group Publishing Limited, 2006. Available from www.emeraldinsight.com/journals.htm?articleid=1550331&show=html.
- Stephenson P and Carrick C. Select and accept a new build home: Buyers' experiences, expectations and attitudes. London, RICS Foundation, 2006. Available from www.rics.org/site/scripts/download_info.aspx?fileID=3309.
- Williams T. Snagging surveys: An investigation of finishing quality in new housing. 2006. Available from www.brand-newhomes.co.uk/Snaggingresearch.pdf.

# APPENDIX C

# Respondent profiles

To categorise home builders, use was made of the NHBC's peer group classification system to allocate home builders into groups of similar annual home production. The definitions are shown in Table 1.

**Table 1**

NHBC peer group classification system

| Peer group | Homes registered in the previous calendar year | Number of home builders in group* |
|---|---|---|
| 1 | 1001+ | 10 |
| 2 | 301 to 1000 | 32 |
| 3 | 201 to 300 | 6 |
| 4 | 51 to 200 | 141 |
| 5 | 11 to 50 | 473 |
| 6 | 1 to 10 | 3664 |
| 7 | Less than 1 a year | 13 000 |

* As at 1 August 2010

The building companies chosen for both the face-to-face research and the telephone surveys were from across the upper and lower range of peer groups (Figure 13) and job roles (Figure 14). There was also a geographical distribution of 12 home builders from the north of England, 12 from the Midlands, 18 from southern England and three from Scotland. The interviews took place during August 2009.

Peer group 3 home builders were omitted from the research projects so as to obtain a clearer picture and a differentiation between large home builders and small ones.

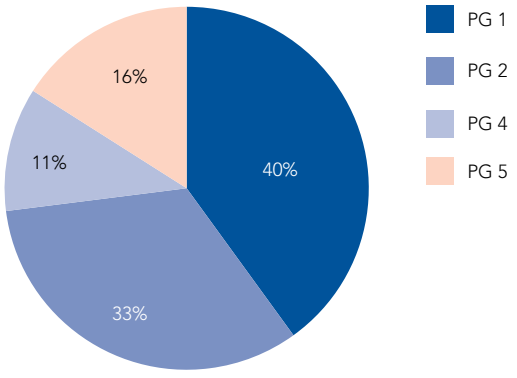



**Figure 13** Home builder peer group profile. (Note: PG 3, 6 and 7 builders were not contacted during this research.)

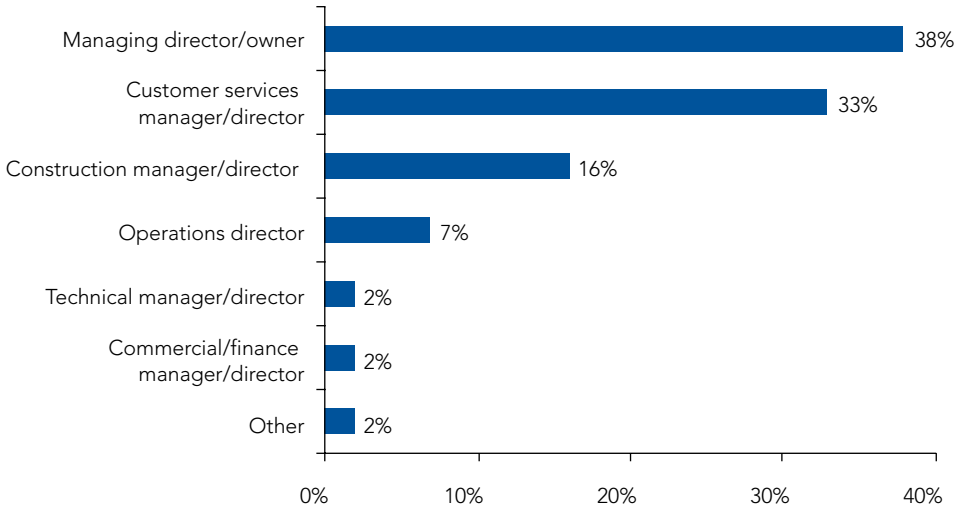



**Figure 14** Home builder respondent job role.

# NHBC Foundation publications

Ageing and Airtightness This NHBC Foundation research seeks to answer how dwelling air permeability changes over time by re-testing a sample of homes one to three years after completion. ***NF24*** January 2011


Introduction to Feed-in Tariffs This guide aims to inform social landlords, house builders, and all those who wish to understand the FIT scheme and its implications. It covers the eligible technologies and how the scheme works, illustrates financial returns and carbon dioxide emission savings through a number of worked examples, and identifies key issues and opportunities related to strategic implementation. ***NF23*** January 2011


A simple guide to Sustainable Drainage Systems for housing ***NF22*** July 2010

Efficient design of piled foundations for low-rise housing ***NF21*** February 2010

Water efficiency in new homes ***NF20*** October 2009

Open plan flat layouts – assessing life safety in the event of fire ***NF19*** August 2009

Indoor air quality in highly energy efficient homes – a review ***NF18*** July 2009

Zero carbon compendium – Who's doing what in housing worldwide ***NF17*** July 2009

A practical guide to building airtight dwellings ***NF16*** July 2009

The Code for Sustainable Homes simply explained ***NF15*** June 2009

Zero carbon homes – an introductory guide for housebuilders ***NF14*** February 2009

Community heating and combined heat and power ***NF13*** February 2009

The use of lime-based mortars in new build ***NF12*** December 2008

The Merton Rule ***NF11*** January 2009

Learning the lessons from systemic building failures ***NF10*** August 2008

Zero carbon: what does it mean to homeowners and housebuilders? ***NF9*** April 2008

Site waste management ***NF8*** July 2008

A review of microgeneration and renewable energy technologies ***NF7*** January 2008

Modern housing ***NF6*** November 2007

Ground source heat pump systems ***NF5*** October 2007

Risks in domestic basement construction ***NF4*** October 2007

Climate change and innovation in house building ***NF3*** August 2007

Conserving energy and water, and minimising waste ***NF2*** March 2007

A guide to modern methods of construction ***NF1*** December 2006

NHBC Foundation publications can be downloaded from **www.nhbcfoundation.org**

## NHBC Foundation publications in preparation

- Fire performance of residential buildings
- Zero carbon: Allowable solutions – energy efficient appliances and controls
- Zero carbon homes: Low and zero carbon cooking appliances
- Building sustainable homes at speed: Risks and rewards

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# Management of post-completion repairs

This report is based on the findings of surveys with real people in the home-building industry and how they manage post-completion repairs. Whilst most of the industry does capture information in respect of what defects occur in new homes and how to put them right, the capture and understanding of the costs involved seems less secure. This report contains some simple best practice advice based on the findings of the surveys.

Assisting the home-building industry to better understand the complete management of post-completion repairs can only lead to a more efficient industry, better built homes and improved customer satisfaction.

NHBC Foundation

*Housing research in partnership with BRE Trust*

The NHBC Foundation has been established by NHBC in partnership with the BRE Trust. It facilitates research and development, technology and knowledge sharing, and the capture of industry best practice. The NHBC Foundation promotes best practice to help builders, developers and the industry as it responds to the country's wider housing needs. The NHBC Foundation carries out practical, high quality research where it is needed most, particularly in areas such as building standards and processes. It also supports house builders in developing strong relationships with their customers.


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