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DRYING FLOOD DAMAGED BUILDINGS

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Key Words

Flood damage, domestic property, drying guidance

Abstract

One of the issues highlighted in the Pitt Review of the summer 2007 floods was the time taken for flooded properties to be reoccupied due to the delay in drying and restoring them to their pre-flood condition. The problem was ascribed partly to the lack of definitive guidance on drying methods, and there was a recommendation for Government and other relevant organisations to investigate any improvements that could be made in the drying of flooded buildings. DCLG commissioned a project to review existing guidance and drying technologies, and to obtain the views from a stakeholder workshop. The study would seem to indicate that any perceived delay in the drying process *per se* does not on its own explain the long restoration times that have been experienced over the past decade. However, availability of equipment and experienced contractors during major flooding events is acknowledged to be an issue. There is also an institutional expectation that the restoration process will take many months. Feedback from the stakeholder workshop indicated that a lack of clarity in the roles and responsibilities of the stakeholders involved in the restoration process can lead to confusion on the part of the householder regarding the series of restoration processes involved, of which drying is just one element. There would seem to be benefit in producing new guidance, making best use of that already available, but providing a clearer focus for linking different drying methods to the type of property and flood damage. Improvements can also be made in the way that such guidance is disseminated, particularly to assist homeowners in understanding the restoration process.

INTRODUCTION

Over the past decade there have been several major flooding events that have affected widespread areas of the UK. The response to these events has seen policy changes, increased spending on flooding research and mitigation measures, and an associated increase in media and public interest. As a result, there is improved knowledge of what causes floods, what it is like to be affected by flooding, and improved guidance on the response and recovery processes. In spite of this, there

continues to be dissatisfaction over the recovery process, with many families unable to return to their homes for several months, and some displaced for more than a year. This was particularly true of the summer 2007 floods which caused major disruption in Yorkshire, Humberside and large areas of the Midlands and the Southwest. Whether the cause of the delay in restoration is related to problems with the drying or repair phases is not clear, but certainly for major flooding events there may be a shortage of competent organisations who can undertake drying

work. Many of these issues have been highlighted by the extensive Pitt Review into the 2007 floods (Pitt, 2008), which found there was “significant dissatisfaction with the time it took to dry out and stabilise properties”, and that “cases of undue delay may be due to the absence of definitive guidance about drying methods.” Pitt also noted the conflicting and limited advice on when it was suitable to return to a damp property and other health aspects, and the availability of innovative drying approaches, such as trailer-mounted dry-air systems. In recognition of the impact that the drying phase could have on communities and long-term health problems for families, together with the costs of insurance and temporary accommodation, Pitt produced **Recommendation 73:**

“The Government, the Association of British Insurers and other relevant organisations should work together to explore any technological or process improvements that can be made to speed up the drying out and stabilising process of building recovery after a flood.”

These conclusions were in part based on a survey undertaken by GfK NOP Research in April/May 2008 (GfK, 2008), which highlighted the importance of good service from insurance companies, and especially the timing of the visit from a loss adjuster which marked the start of the recovery process. GfK found that 37% of households had to wait for more than a week for contact from the loss adjuster; 31% had to wait for more than a month for any work to commence; 30% had to wait for more than 4 months to see work commence. At the time of the survey, about 10 months after the main floods, only 57% of households had concluded their claim, 38% within 6 months of the event. Of the remaining claims it was not clear why these were still ongoing, whether due to technical or financial problems.

The Pitt Review recognised that the magnitude of the 2007 events was a

challenge, and noted that many were pleased with the service from their insurance company. This was echoed in the research undertaken by the ABI as reported in their lessons learned summary (2007)), which noted that the insurance industry responded to around 165,000 claims, with a total cost of around £3 billion. They also noted that additional drying equipment and specialists were brought in from across Europe to help with the recovery process. However, this report also stated that a typical house with severe flood damage can take 12 to 18 months to restore to its pre-flood condition, with pre-drying clearance taking about 1 month and drying possibly taking several months. Such a view would seem to be at odds with the expectations of homeowners and hence the views expressed by Pitt.

DCLG STUDY

To address Recommendation 73, the Department of Communities and Local Government (DCLG) commissioned a project in December 2008 under the Building Regulations Research Framework to look at the drying of buildings, and to consider the need for improved guidance to assist in this process. This project is being led by HR Wallingford, in collaboration with the University of Wolverhampton and CIRIA. The key components of this project are:

- A review of existing guidance and practices
- A workshop to gather views from stakeholders
- A review of how to make best use of existing guidance, particularly its dissemination
- Identification of any knowledge gaps and need for further studies
- A final report on how the drying process can be improved, including new guidance (should this be confirmed as being needed).

Table 1 Summary of reviewed publications

Title	Author	Date of Publication	Type of Publication	Just Drying	UK
Drying out buildings	BRE	1974	Digest 163	Y	Y
Repairing your flooded home	FEMA/ Red cross	1992	Advice Booklet	N	N
Repairing flood damage: immediate action	BRE	1997	Guide 11 Part 1	N	Y
Repairing flood damage: ground floors and basements	BRE	1997	Guide 11 part 2	N	Y
Repairing flood damage foundations and walls	BRE	1997	Guide 11 part 3	N	Y
Preparing for floods. Interim guidance for improving the flood resistance of domestic and small business properties (2003 reprint)	Office of the Deputy Prime Minister (ODPM)	2003	Advice Booklet	N	Y
Flood damaged property: a guide to repair	D.G. Proverbs and R Soetanto	2004	Book	N	Y
Flooding and historic buildings	English Heritage J. Fidler, C. Wood and B. Ridout	2004	Technical advice note	N	Y
Moisture measurement guide for building envelope applications	Institute for research in construction (Canada)	2004	Technical guidance	Y	N
Standards for the repair of buildings following flooding	S. Garvin, J Reid & M Scott	2005	Book (CIRIA c673)	N	Y
Repairing flooded buildings: an industry guide to investigation and repair	Flood repairs forum / BRE	2006	Book	N	Y
PAS64	BSI/Chris Netherton	2006	Standard	Y	Y
Creating a healthy home, a field guide for clean-up of flooded homes	National centre for Healthy housing and Enterprise community partners (US)	2006	Advice Booklet	N	N
Understanding basic flood recovery procedures	BDMA	2007	Advice leaflet	N	Y
Self help for victims of flooding, what you can do	BDMA	2007	Advice leaflet	N	Y
<i>After a flood</i>	Environment Agency	2007	Advice leaflet	N	Y

At the time of writing (late April) the majority of the research has been completed and a decision is awaited from DCLG and Defra on whether to proceed with the production of new guidance. This paper will therefore discuss the findings from the guidance review and stakeholder workshop, and the possible ways forward.

REVIEW OF EXISTING GUIDANCE

In the study a total of 32 documents were identified that dealt, at least in part, with the drying and repair functions. Of these, the 16 listed in Table 1 were reviewed in detail, and summarised against a set of issues that the project team considered to be important. These were:

- Provision of advice to homeowners
- Advice on emergency organisation immediately after a flood
- Need for survey of a property after a flood (including flood characteristics)
- Assessment of stakeholder needs and drying goals
- Options for drying
- Equipment / process to use based on flooding / property type
- How to measure and record moisture
- Health and safety aspects (including vermin)
- Linkages between drying and repair contractors (and homeowner and insurers).

Overall, the two documents that cover the greatest number of the above issues were PAS 64 and the CIRIA 'Standards for the repair of buildings following flooding'. In addition, the book from the Flood Repair Forum (FRF) also scored well. PAS 64 is very thorough and provides comprehensive and clear guidance on how to go about drying a standard property, apart from specific advice to homeowners and the options for drying. Of all the documents, it provides the clearest advice on how to go about measuring and recording moisture levels, linked to the initial survey and drying goals. It contains recording forms that can only aid understanding of the

drying process, which the project team considered to be very useful. The CIRIA guide is very comprehensive, but does not provide such clear information on the measurement of moisture, and is geared to repair professionals, whereas PAS 64 (although not addressed to the homeowner) is appropriate for a non-technical audience. The FRF guide is more of an institutional document, dealing well with the organisations involved in the whole process of restoring a flooded home. This is not surprising given that it was created with the insurance industry in mind. It does also include recording forms although these are not as detailed as those in PAS 64. The interim conclusion from this review is that guidance does exist, but none fully covers all of the issues that were considered to be important, in terms of addressing the concerns raised in the Pitt Review.

STAKEHOLDER WORKSHOP

The draft findings from the above review were presented at a workshop involving a wide range of stakeholders, from insurers, drying and repair contractors, local authorities and other interest groups. Via a series of group exercises and discussions, the key elements involved in the recovery process and the interaction and role of each of the organisations involved were considered. The key findings from this workshop were:

- In a 'best case' scenario the drying process should take 4 to 8 weeks, although it was recognised that with a major flood event this process could take longer
- Overall, the time taken for a property to be re-occupied should be in the range 10 to 24 weeks (although speed drying could reduce this)
- Data from the National Flood School (pers comm.) confirmed that drying takes on average about 30 days (see Figure 1) based on 615 properties, so it was agreed that other 'bottlenecks' were generally responsible for the delay in re-occupation

- Homeowners need to be given clear advice and information at the start of the restoration process, so that expectations can be managed. This should include an explanation of roles and responsibilities of the different organisations involved
- Drying targets should be established on an individual basis, and there should be clear recording and reporting of when the drying target has been achieved
- In order to obtain the greatest amount of impact and uptake of any new guidance, sufficient buy-in should be obtained from the insurance industry, as they are considered key to the whole recovery process
- The appointment of a single point of contact (the “project manager”) would help streamline the process and improve customer liaison.

lot shorter than the insurance industry expectation. The drying and repair industries also believe that, if best practice is followed, they can deliver within acceptable timeframes. However, this view has been shown to be somewhat optimistic, in that the reality of the level of preparedness of the industry to respond to major events does not match the belief (Rhodes and Proverbs, 2008).

The causes of the delay in restoring some properties following the 2007 flooding were seen to be larger than the problems associated with drying. However there does appear to be limited matching of drying goals and methods to the type of property and extent of flooding which may have led to greatly extended drying times for some homes. In part this must be due to a lack of accessible guidance on these aspects. There is also no consistency in the way the industry monitors moisture levels and communicates the effectiveness of the drying process. Improved guidance could promote best practice and reduce average recovery times. In general there appears to be a clear lack of communication of the steps involved in the recovery process and the associated timescales. This lack of common expectations can lead to dissatisfaction.

DISCUSSION

From the brief summary of the DCLG project presented above, it is clear that there remains a lack of agreement or understanding of how long it should or will take to restore a flood damaged property so it can be re-occupied. The view of Pitt, presumably reflecting the desire of homeowners, is that the process should be a

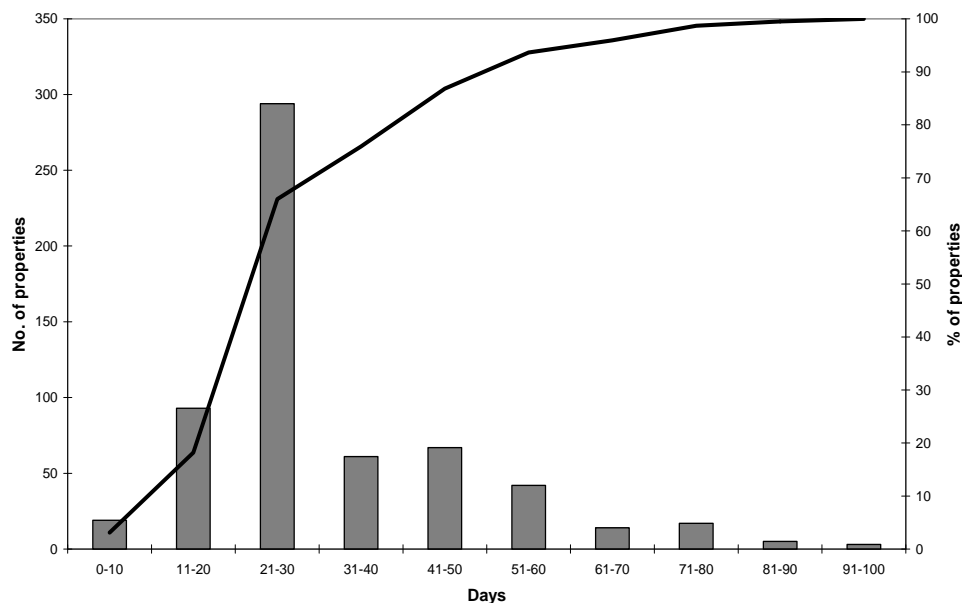


Figure 1 Summary of drying times from 2007 floods

Whilst there is a lot of existing guidance, there is no one document that covers the issues that are seen to be important in addressing the concerns expressed in the Pitt review. New guidance could fulfil that purpose. The workshop indicated that stakeholders would welcome new guidance on drying which links drying methods to the degree of moisture and the property construction. Best practice in the measurement of moisture, which is a developing science, and in recording and

reporting such data would also be seen as helpful. The new guidance should also improve the understanding of the whole recovery process, and provide greater clarity of the different roles, particularly that of the overall project manager who was seen as key in delivering improvements. Finally, there may also be a need for improved dissemination of such guidance, with summary documents available from local authorities aimed at homeowners, and increased use of the Internet and helplines.

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