INTRODUCTION

This document provides advice and guidance on the process of undertaking stock condition surveys for local authority managed housing stock. It is aimed at assisting local authorities to improve the long-term management of their housing stock.

STOCK TRANSFER

There are specific stock condition information requirements contained in the Housing Stock Transfer Guidelines to be issued by the National Assembly for Wales, which will need to be followed should a local authority require consent to a stock transfer. Where a local authority is undertaking a stock condition survey as part of a process to consider whether or not to transfer its stock, then this guidance should be read in conjunction with the Housing Stock Transfer Guidelines.

STRATEGY

A plan for undertaking a stock condition survey should form part of a comprehensive strategy for future planned maintenance. This also should be linked to any reinvestment, improvements and energy efficiency policies.

The stock condition survey plan should encompass the following principal elements: -

- Objectives of the survey
- Details of the statistically representative sample used for the survey
- A rolling programme to achieve a regular cycle of surveys
- An appropriately detailed survey pro forma
- The means by which the data will be gathered and recorded
- The resources that will be needed to carry out the survey and analyse the data
- How progress will be monitored
- How the data will be analysed
- A database of component costs
- Agreed component life cycle predictions

Further details of the above elements are described in the following sections.

OBJECTIVES

Surveys should aim to provide an overall assessment of the condition of the stock. This can be achieved by using a representative sample of dwellings, including all associated external works.

It is not necessary to survey 100% of the stock in order to achieve an overall assessment.

The principal objectives should be: -

- A repair assessment, i.e. establishment of the nature and extent of defects within the whole housing stock (Any immediate urgent repairs observed during the course of the survey should be recorded and actioned separately and not included in the survey database)
- A record of the basic property attributes, including dwelling age, location, client group, built form and construction type
- The current condition of the main elements and components using a standard coding system (see Appendix 2), together with estimated cost and year of replacement
- Data required by the Home Energy Conservation Act (HECA) reports including a Standard Assessment Procedure (SAP) energy efficiency rating for each property
- A 30 year projected forecast of component replacement costs.

SAMPLING

A small pilot survey should be carried out on a representative sample of stock, as a means of validating the survey format, content, consistency between surveyors, and methodology. Void properties can be used for the pilot surveys as these provide an excellent opportunity for training and benchmarking different surveyors' views on condition, as access should be always available.

The sample for the pilot survey should not need to be greater than 5% of the stock to be included in the main survey.

The method of analysing the survey data should be checked at the pilot survey stage to ensure reports contain the required information. It is important that the main survey should not be commissioned or commenced until the pilot survey has been completed, evaluated and any problems encountered resolved.

The main survey should aim to include: -

- A statistically representative sample within each built form, constructional type, improved/unimproved variants, and age band.
- Internal surveys of a representative sample of flats or maisonettes in each block of flats surveyed, with a minimum of 2 in smaller blocks.
- All voids should be surveyed internally whilst the opportunity is available.

ROLLING PROGRAMME

To maintain up to date information on stock condition, regular cycles of surveys should be undertaken. As a minimum, a statistically representative sample of all stock should be surveyed every 5 years. Alternatively, a 5 year rolling programme of surveys could be implemented, based on surveying a representative sample of 20% of the stock each year. Depending on circumstances, it may be appropriate to survey a higher percentage in one year, balanced by a lower percentage in another year.

The sampling for the rolling programme should prioritise the following: -

- Properties where the main survey indicated that major components were predicted to fail within 2 to 3 years (these should be resurveyed during the rolling programme to ensure that any predicted residual life left of any component can be effectively monitored).
- Properties less than 5 years old (if any) should be included as a desk exercise.

SURVEY FORMAT

The survey format should be designed to gather the minimum amount of information consistent with achieving the objectives (see Appendix 3). Although there are clear advantages in gathering the minimum necessary information, there may still be advantages in using the survey to gather additional information (examples included at the end of Appendix 3).

In designing the format, the following should be considered: -

- Component reference codes should be used for effective data processing into variable report formats.

- Component condition codes (A - E) and effect of failure ratings (1 – 4) should be used to enable simple prioritising of work programmes (see Appendix 2).
- The number of components should be reduced to the minimum necessary, by considering which components are likely to be grouped together within a single planned replacement contract, and recording these as one component in the survey. Aggregation of components makes the survey simpler and easier to maintain, unless this conflicts with a policy to replace only those individual components that have failed.
- Urgent response repairs, which should be reported and carried out immediately following each property survey, should be recorded separately from the standard survey format.
- Cyclical decorations and equipment servicing information (if gathered at the time of the survey) should be recorded separately from the survey format. Where condition information is already being gathered as part of an annual service contract, e.g. gas boilers, then this information need not be included in the survey, but still should be included in the long term expenditure forecasts, as a desk exercise.
- Measured quantities should be gathered as a desk exercise from 'as built' drawings where possible. Costs of components based on average quantities in many cases would be sufficient.
- Photographic records of the main elevations should be included where practicable. Photographs are a good aid to identify correct properties and externally visible repairs.

DATA CAPTURE

Local authorities will need to decide on the means of recording survey data. Generally data can be captured electronically on hand-held machines or manually on paper pro formas.

Where electronic data capture is used it must be compatible with the data analysis software. Careful consideration should be given in the choice of survey hardware, in particular its robustness, battery life, data fail-safe, save and storage capacity, download facility and reliability.

Where external consultants use electronic data capture, their brief should include training of in-house staff in its use, if it is intended that future surveys, or the processing of data, will be carried out in-house.

RESOURCING

Local authorities should ensure that persons carrying out surveys have the necessary expertise. Competent building technicians providing they have a good understanding of building construction, defects and failures can successfully carry out condition surveys.

The assessment of the resources needed has two aspects: -

- Cost of carrying out the survey and processing survey data.
- Cost of carrying out urgent repairs discovered during the course of the survey. This reflects the additional expenditure which will be incurred to carry out urgent repairs which may not otherwise have been discovered if the survey had not been undertaken. The extent of these costs will not be known until the survey has been completed.

Local authorities need to consider whether specialist advice is required in preparing plans, methodologies, survey formats, tender documentation, etc.

In deciding between using in-house staff and outside consultants the following resource implications need to be considered: -

- Training needs of in-house staff.
- Benefits of in-house staff using and increasing their knowledge of the stock.
- Preliminary research, establishing objectives, preparing the brief.
- Designing the survey, and survey forms.
- Evaluation of consultants, tendering and commissioning costs.
- Survey co-ordination and quality control.
- Arranging access.
- Direct cost of the survey.
- Ensuring compatibility of software, programming, input and data analysis.
- Whether the survey is in relation to consideration of transferring housing stock to a registered social landlord, in which case there are clear advantages in using independent consultants.

The following are the advantages and disadvantages of using **consultants:**

ADVANTAGES   -Savings on time and cost of set up
-Known cost
-Speed in obtaining a finished product
-Independence of survey (especially important if the data is to be used in the process of a stock transfer)

DISADVANTAGES -Loss of direct control of process
-Unknown performance

-In-house expertise not developed

-Potentially higher cost

PROGRAMME AND MONITORING

A programme based on realistic timescales should be determined for each stage of the survey process, which should include the following elements: -

- Preparation of methodology.
- Value for money assessment (in-house survey or external consultants).
- Preparation of brief/tender documents (if appropriate) not more than 6 months in advance of inviting tenders
- Brief/tender documents to be checked by consultant (if prepared in-house)
- Tendering process (if applicable).
- Pilot survey (allow at least 4 weeks to validate results and test data analysis software)
- Amendments to methodology and survey format (if necessary).
- Initial major condition survey (if necessary).
- Rolling programme of surveys.

Progress against the timescales for the above stages should be regularly monitored. Regular meetings must be held with consultants or in-house team to ensure target objectives, in terms of quality of information and results, are met. Reports should be provided to the client department at key stages.

It is important that there is a regular flow of data analysis information to allow for checking of reports/results at early stages to avoid the risk of discovering that the information/reports provided at the end of the exercise are inappropriate or unsuitable.

DATA ANALYSIS

Stock condition information should ideally be considered as part of an overall information management strategy, to provide key information that is consistent and useful across all departments. It is useful if data definitions are consistent within a local authority, e.g. using the same unique property reference numbers across all departments.

The use of computer software is essential in the analysis of condition survey data. The system chosen must be able to present information in report formats that allow their use as a planning tool in long term forecasting. Local authorities

need to decide whether to use a stand-alone system or an integrated system where the software for both stock condition and response repairs are linked. An over-ambitious and complex system should be avoided, if the time, effort and cost out-weighs the quality and usefulness of the final information. Any data analysis software should be fully demonstrated and tested with real survey data before commitment to the system.

The data analysis software should provide a full set of reporting and querying facilities in order that specific information can be identified easily and costs broken down and reported in tabular form. The information should able to be easily exported for use in financial and business plans.

It should be possible to validate the accuracy of global reports (which include groups of properties) if the system is capable of analysis into more detailed reports which can focus on a variety of specified database fields. The totals of the more detailed reports should be capable of being followed through to the global reports. In this way the structure of reports would show clearly that the cost of any given component of a particular property has been accurately included within the global reports.

Specifically, the reporting facility should be able to break down or isolate costs in terms of, inter alia: -

- The entire stock, so it can be compiled and assessed as a whole
- Geographical areas or a single area isolated for examination
- Different categories of tenure
- Individual properties, including identifying those properties showing the highest projected costs over a given period, and also showing the projected costs of individual components within a property
- Individual components or groups of related components that would make up a package of works
- Specified bands of between 1 and 10 years with individual years able to be isolated for analysis.

All the above reports should be capable of providing 30 year projections.

Before the cost forecasts can be incorporated into any strategic, financial or business plan, they will need to be reviewed to determine the extent to which they can be "smoothed". Smoothing is the process where expenditure, predicted for a given year, is brought forward or moved backwards in order to avoid peaks and troughs of expenditure.

For example , "smoothing" of expenditure may need to occur under the following circumstances: -

- Where a local authority may not have the capacity to undertake all planned maintenance work in the particular year identified by the survey.
- Where the batching of contracts to undertake specific types of component replacement will result in work being brought forward or delayed, in order to achieve significant cost savings
- To carry out unrelated works, each requiring scaffolding, at the same time
- To ensure works are carried out in an appropriate sequence

Smoothing should not result in the deferral of urgently required works.

COMPONENT COSTS

A range of methods can be used to obtain component costs. These include information sources such as the National Housing Federation (NHF) Schedule of Rates, the Wessex Price Book and the BMI Price Book (Maintenance Division of the RICS Building Cost Information Division). Also in use, is information from consultants who have developed databases of standard component costs, or which have been integrated into maintenance software packages.

Any system of component costs used should be regularly reviewed to ensure that it accurately reflects the current market conditions experienced in the local authority's area of operations.

The costing of components should allow for the following: -

- removing and disposing of the failed component
- supply and fitting of new components
- making good decorations and finishes
- contractor's profit and attendance
- fees and overheads

COMPONENT LIFE CYCLE PREDICTIONS

A key feature of the assessment of what work is required is also a judgement about when it is needed. Immediate needs should be identified (normally spread over five years). Once the immediate catch-up works are completed, it is necessary to consider what will need to be done in future, either as a replacement or major overhaul. The timing of this work is important because of its effect on future costs. It is important to use surveyors' judgements in estimating the period before first replacement, since in many cases components of a building perform better or worse than suggested by standard lifecycles which may be affected by factors such as environmental and local conditions. Standard lifecycles should be used where components are nearly new.

Some building components will need to be replaced more than once in any 30 year period. To determine this, appropriate lifecycles must be established for building components. Setting appropriate lifecycles is critical since they can have a significant impact on future forecasts of expenditure.

A number of factors affect the longevity of a component. The following need to be considered in the prediction of component life spans:-

- Material of manufacture
- Design and quality of fabrication of component
- Design detail of how it is incorporated into the building
- Workmanship on site
- Environmental factors
- Tenant usage
- Maintenance levels

Local authorities will need to average component lives across their stock, taking account of the following factors:-

- Predictions should not be excessively skewed due to the experience of the early failure of some types of components, if the majority of the particular type of component is likely to have a much longer life.
- Where there is a policy of replacing particular components responsively as and when they fail, then it needs to be considered whether these particular components need to be included within a planned maintenance programme.
- Predicted lives of related components will need to be harmonised, e.g. choosing a predicted life for fascias twice that of gutters, where fascias will be replaced every second cycle of gutter replacements.
- Changing specifications resulting in extended life cycles.
- Where there is a difference in the life expectancy between an existing component and those that will be installed when replacement becomes necessary, then the average component life chosen should reflect the life expectancy of the new component.
- Where tenants have improved their properties or where tenants do not like change and are happy with the condition of a component e.g. kitchen fittings, then forecasts need to be adjusted.

The question to be asked in choosing the average life of any particular component is "Will the choice result in a reasonable financial provision for future replacement?"

Because of the many potential scenarios, it is inevitable that the expected life span of a given building component will vary. However, for information purposes,

the National Assembly for Wales has established a "default life" for each component, together with a +/– tolerance in each case (see Appendix 1).

The "default life" is the National Assembly for Wales's view on a reasonable average life of a component having regard to the experiences of Registered Social Landlords in Wales and the work carried out by the Building Research Establishment (BRE) together with Housing Association Property Mutual (HAPM) publication of insured component lives.

Further information and advice may be obtained from the Housing Performance and Finance Division. Contact Housing Maintenance Auditors, Allan Bond telephone number 029 2082 6931 or Paul Davies telephone number 029 2082 6930.

APPENDIX 1 - COMPONENT LIFE CYCLE PREDICTIONS

NATIONAL ASSEMBLY FOR WALES (NAfW)

Element	Component	Material	NAfW Default Life (Years)	Tolerance	
				+ years	- years
ROOF	Structure	Timber	60	40	10
	Covering	Natural Slate	60	40	10
		Artificial Slate	35	5	5
		Concrete Tile	40	20	5
		3 layer felt roofing	15	5	5
	Fascias & Bargeboards	Timber	25	5	5
		PVCu	40	10	10
	Rainwater Goods	Aluminium	40	10	10
		PVCu	20	5	5

Element	Component	Material	NAfW Default Life (Years)	Tolerance	
				+ years	**- years**
EXTERNAL WALLS	Cavity Wall	Masonry	60	40	10
		Timber Frame	60	40	10
	Solid Wall	Masonry	60	40	10
		Render	30	10	5
WINDOWS & DOORS	Window Frames	Softwood	25	5	5
		PVCu	25	5	5
		Aluminium	30	5	5
	External Doors & frames	Softwood	20	5	5
		Hardwood	25	5	5
		PVCu	20	5	5

Element	Component	Material	NAfW Default Life (Years)	Tolerance	
				+ years	**- years**
		Aluminium	30	5	5
	Glazing	Double Glazed Units	20	10	5
INTERNAL FINISHES	Floors	Covering	15	5	5
		Boarding	40	25	5
	Walls	Plaster	50	15	10
	Ceilings	All	40	25	5
INTERNAL WALLS	Structure	Masonry	60	40	10
		Timber/ Metal Stud	60	40	10
UPPER FLOORS	Structure	Concrete	60	40	10
		Timber	60	40	10

Element	Component	Material	NAfW Default Life (Years)	Tolerance	
				+ years	**- years**
INTERNAL DOORS	Fire	All	25	5	5
	Other	All	25	5	5
HEAT SOURCE	Boiler/Pump/ Controls	Solid Fuel	15	5	5
		Gas - Conventional	15	5	5
		Gas - Combi	15	5	5
		Gas - Condensing	15	5	5
SPACE HEATING	Radiators	Wet System	25	5	5
	Storage Radiators	Electric	15	5	5
FITTINGS	Kitchen	All	15	5	5
SANITARY APPL.	Baths, Toilets Basins	All	25	5	5

Element	Component	Material	NAfW Default Life (Years)	Tolerance	
				+ years	**- years**
ELECTRIC INSTALL.	Wiring & Accessories	All	30	5	5
	Fittings	All	30	5	5
	Electric Showers	All	10	5	5
VENT.	Extract Fans	All	10	5	5
PROTECT. INSTALL.	Smoke/Heat Detectors	All	10	5	5
COMMUN-ICATION	Door Entry	All	15	5	5
	Emergency Call	All	10	5	5
HARD LAND-SCAPING	Paving	All	30	10	10
SITE ENCLOSURE	Boundary Walls	All	60	40	10
	Boundary Fences	All	15	10	5

APPENDIX 2 - CONDITION OF COMPONENTS AND EFFECTS OF FAILURE RATING

Condition Code

A. VERY GOOD CONDITION	- As new, requires no work
B. GOOD CONDITION	- Some signs of ageing, but mainly visual.
C. AVERAGE CONDITION	- Definite signs of wear and tear, but serviceable, with acceptable levels of ongoing maintenance.
D. POOR CONDITION	- Serviceable <u>but</u> only short life. Extensive maintenance may be required for component to remain serviceable. Likelihood of visible decay/ageing. Expected deterioration into Category E within five years.
E. VERY POOR CONDITION	- Imminent total failure. Component at end of economic life.

Effects of Failure Rating

1.   Loss of amenity

Failure of component resulting in loss of use of the amenity in which the component occurs, e.g. loss of use of room, loss of use of secondary access, etc.

2.   High cost

Failure of component resulting in:

High cost for component replacement / renewal

And / or costly consequential component damage

And / or significant rent loss due to void property.

E.g. roof covering at end of economic life, void due to disrepair.

3.   Health, safety, security

Failure of component resulting in serious risk to the health, safety and security of tenants and/or third parties, e.g. serious condensation / mildew, failed fire escape stairs, insecure boundary to vulnerable area.

4.   Danger to life

Danger to life or risk of serious injury, e.g. dangerous structure imminent risk of collapse.

APPENDIX 3 - MINIMUM LIST OF ELEMENTS TO BE INCLUDED IN SURVEY.

Roof.

Chimney
Structure
Coverings
Fascias & Bargeboards
Rainwater Goods

External Walls (including cills & lintels).

Cavity Wall
Solid Wall
Pointing
Render
Cladding

Windows and External Doors (Including Frames & Thresholds).

Window Frames (including glazing)
External Doors

Internal Finishes.

Floor
Wall
Ceilings

Internal Walls & Partitions.

Structure

Upper Floors

All

Internal Doors

Fire Doors
Other Doors

Stairs

Flights, including balustrades and handrails

Heat Source

Boiler, Pump and Controls
Other

Space Heating

Radiators including valves & pipework
Storage Radiators
Fires

Fittings.

Kitchen units including work tops, sink top, taps and tiling

Sanitary Appliances

All (WC, washhand basins etc), including pipework for hot, cold water and disposal.

Electrical Appliances.

Electric Shower

Electrical Installation.

Wiring
Fittings

Ventilation Systems.

Extractor Fans
Other

Lift.

Passenger Lift
Stair Lift

Protective Installations.

Smoke/Heat Detector
Fire Extinguisher
Fire Blanket

Communication Installation.

Door Entry
Emergency Call System

Hard and Soft Landscaping.

Paths & Driveways
Roads
External Stairs and Steps
External handrails

Site Enclosure and Division.

Boundary fences
Boundary walls
Retaining walls

Drainage.

All

External incoming services.

All (including water, gas, electricity and telephone)

Ancillary Structures.

Porches
Balconies
Garage
Store/Shed
Fire Escape

General.

The Stock Condition Survey should include the following additional elements:

Roof Insulation
Cavity Insulation
Fire Safety
Health and Safety
Dampness/Condensation
Rot/Infestation

The following is a list of additional items that may usefully be gathered at the same time as conducting a stock condition survey:

Barrier free housing issues such as adaptability of properties and the extent of existing disabled adaptations

N.B. Where properties are being surveyed for disabled adaptations, then 100% should be surveyed internally and externally (sampling is not appropriate).

Energy efficiency information (over and above SAP ratings) such as NHER and CO_2 emissions

The presence of asbestos in any building components

Tenant profile information and housing needs information

Information to assist with rent points assessments such as internal floor area and garden size

GLOSSARY

Client group	- Category of tenant, e.g. general needs, Special needs, elderly etc.
Built form	- Type of building, e.g. terraced house, bungalow, flat etc.
Construction type	- Method of construction, e.g. traditional brick and block wall, timber frame, factory system built
Improved/unimproved variants	- Within a constructional type, the distinction between properties which have been renovated or rehabilitated and those which have largely not been improved since original construction
SAP (Standard Assessment Procedure)	- Method of calculating the energy efficiency rating of a dwelling
Batching of works	- Combining similar or related works into a single contract
Reinvestment	- Expenditure of money in the refurbishment of property which has no outstanding mortgage or loans
Improvements	- Upgrading or modernising elements of a dwelling to current living standards
Energy efficiency	- The measure of the amount of energy a dwelling needs to provide heating, hot water, lighting, power, cooking, etc. for normal living requirements. Usually related to the construction of the building
Statistically representative sample	- A careful selection of properties which accurately represents the proportions of types of properties which make up the Local Authority's total stock
Component	- Any basic constituent parts of the construction of a building generally grouped into elements e.g. windows, doors, walls, roofs etc.