BS 8587:2012

BSI Standards Publication

Guide to facility information management

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Publishing and copyright information

Published by BSI Standards Limited 2012

ISBN 978 0 580 78216 9

ICS 01.040.03 | 03.080.99 | 91.040.01

The following BSI references relate to the work on this standard:
Committee reference FMW/1
Draft for comment 12/30259858 DC

Publication history

First (present) edition, October 2012

Amendments issued since publication

Date	Text affected

Contents

Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 36, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 October 2012. It was prepared by Technical Committee FMW/1, *Facilities Management*. A list of organizations represented on this committee can be obtained on request to its secretary.

Information about this document

The initial drafting of this British Standard was produced in association with the Department for Business, Innovation and Skills as part of its on-going programme of support for standardization.

Use of this document

As a guide, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification or a code of practice and claims of compliance cannot be made to it.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The guidance in this standard is presented in roman (i.e. upright) type. Any recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

In particular, attention is drawn to the following specific Acts and Regulations:

The Equality Act 2010 [1]

The Transfer of Undertakings (Protection of Employment) (Amendment) Regulations 2009 [2]

The Freedom of Information Act 2000 [3]

The Health and Safety at Work etc. Act 1974 [4]

The Construction (Design and Management) Regulations 2007 [5]

The Data Protection Act 1998 [6]

Introduction

The efficient and effective management of facility-related information is necessary for owners and operators in order to comply with requirements of the organization and financial obligations and duties, as well as being able to derive optimal use and benefit from their facilities. The breadth of information to be managed can be substantial and demands a structured approach to its collection, maintenance, updating, communication and control. The starting point for owners, as the primary organization with an interest in information about a facility, is to be able to understand the various types of information and data that are needed for the day-to-day management of their facility throughout its life. The purpose of this British Standard is to assist with the identification, structuring and compilation of information and data required for a wide range of purposes and needs. These requirements can take the form of a facility handbook containing legal, commercial, financial, technical and managerial information which is made available to personnel with the appropriate authority. The facility handbook is a medium for providing relevant and comprehensive information and data necessary to sustain the facility's operations into the future.

Building log-books and, increasingly, building manuals and building user guides are prepared for facilities. Ownership and management of a facility brings with it the responsibility for safe and correct operation, which extends to the well-being of occupants and other users. These undertakings go beyond concerns about the technical aspects of the facility to cover myriad issues for which owners, and those acting on their behalf, have specific responsibilities and accountabilities. Information and data needed for these purposes might be found in different parts of the organization; in some cases, information might simply be unavailable. Knowing which information and data an organization needs to collect, maintain, update, communicate and control can prove challenging. Since facilities are the physical assets that an organization possesses there is the need to protect, even enhance, the value of that investment. Knowledge about facilities has real value; moreover, the cost of delivering the asset in the first instance includes the cost of producing and managing information and data. In the case of a new facility, an information asset is delivered alongside the physical asset. The relationship between the two has to be understood if the facility is to be delivered as promised and if it is to serve its intended purpose well into the future.

Information management, in particular facility information management, provides a focus for addressing the previously mentioned concerns and interests. By considering the totality of the information and data required to support the safe, correct, efficient and effective operation of a facility, owners and operators can better understand their current and likely future obligations and commitments. Owners, in particular, might already be aware of the extent of their legal obligations, but might not fully comprehend demands or requirements in other areas affecting their facilities such as those of a commercial, financial and managerial nature. A further dimension of facility information management is to ensure that the right information is communicated to the right people at the right time in the right format. It is, however, important to stress that information management is not primarily an information technology issue. Technology can significantly improve the integrity of information and data and the speed at which it is communicated. Before that can happen there has to be a sufficiently developed understanding of the principles and practices embodied in information management and how information and data can be managed in the best interests of the organization managing the facility.

1 Scope

This British Standard provides owners, operators, tenants, facility managers and property managers with guidance and recommendations in regard to the management of information and data concerning the facilities they own and/or operate. The standard is applicable to organizations managing an existing facility as well as those planning the delivery of a new facility. Whilst primarily intended for organizations in the private sector, the standard might have benefits for public sector bodies.

This standard does not cover the information and data required to deliver the operational asset, but includes recommended actions to assist in safe, correct, efficient and effective operation of the asset.

*COMMENTARY ON **CLAUSE 1***

Matters in regard to operability require provision to be made within the asset delivery process; however, no account is taken in the standard for these requirements. The use of building information models (BIM) in the delivery process for a new facility is, however, anticipated by the recommendations embodied in the standard. The emphasis is on the management of information for existing facilities irrespective of whether or not the organization is contemplating the retrospective application of BIM. Information requirements in regard to the design and construction of a facility are therefore not covered. Nonetheless, this standard has been drafted to take into account the technology and application of BIM. BS 8536 recommends actions regarding the incorporation of information and data for operation of the facility in prior lifecycle phases, particularly design.

For the purpose of this British Standard, the terms "information" and "data" are used to differentiate between structured data from which meaning can be derived by the person receiving it and raw or unstructured data such as statistics, facts and transactions. Similarly, "documents" and "records" are used to differentiate between structured information that is exchanged between people and systems and information that is created, received and maintained.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

BS EN 15221-1, *Facility management – Part 1: Terms and definitions*

BS ISO 10845-1, *Construction procurement – Part 1: Processes, methods and procedures*

BS ISO 10845-2, *Construction procurement – Part 2: Formatting and compilation of procurement documentation*

Other publications

[N1] RIBA. *Uniclass: Unified Classification for the Construction Industry*. London: RIBA Publishing, 1997.

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in BS EN 15221-1, BS ISO 10845-1, BS ISO 10845-2 and the following apply.

3.1.1 as-built information
expression of the design, its working detail, construction works and/or installations, functions, operations and maintenance needs of a facility in a form suitable for use in managing that facility

[BS 8536:2010, **3.5**]

3.1.2 asset cost breakdown
itemization of the capital cost of a facility asset in terms of its constituent parts

3.1.3 asset register
collection of records holding information about facility assets in terms of their manufacturer, vendor, make, model, specifications, date of acquisition, initial cost, maintenance cost and requirements, accumulated depreciation and written-down value

3.1.4 building information model (BIM)
shared digital representation of physical and functional characteristics of any built object (including buildings, bridges, roads, etc.) which forms a reliable basis for decisions

[BS ISO 29481-1:2010, **2.2**]

3.1.5 building log-book
operations and maintenance information used to improve energy management within a building

3.1.6 building manual
guidance to assist in making the best use of the design features, services and systems of a building or other facility

3.1.7 business continuity management (BCM)
holistic management process that identifies potential threats to an organization and the impacts to business operations that those threats, if realized, might cause, and which provides a framework for building organizational resilience with the capability for an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities

[BS 25999-1:2006, **2.3**]

3.1.8 computer-aided facilities management (CAFM)
systems, applications and tools that automate functions needed to support the core business in its efficient and effective use of facilities

3.1.9 critical activities
activities which have to be performed in order to deliver the key products and services which enable an organization to meet its most important and time-sensitive objectives

[BS 25999-1:2006, **2.12**]

3.1.10 data drop
data that are deliverable at a defined gateway in a stage-gated process

3.1.11 data element
basic unit of information that is quantifiable and measurable

3.1.12 document
fixed and structured amount of information that can be managed and interchanged as a unit between users and systems

[BS ISO 29845:2011, **3.11**]

3.1.13 facility handbook
organized collection of documentation covering the operation of a facility

[BS 8536:2010, **3.24**]

3.1.14 facility-related service
service supporting the primary activities of an organization, delivered by an internal or external provider

[BS 8572:2011, **3.1.9**]

3.1.15 flawless start-up
fault-free commencement of operations

3.1.16 green lease
use of incentives to align parties toward sustainable business practices within the terms of a lease agreement

3.1.17 information handover plan
statement of intentions and timings for the delivery of information assets

3.1.18 information management
processing and storage of information in a controlled manner

[BS 10008:2008, **3.6**]

3.1.19 information management plan
statement of intention for the collection, maintenance, updating, communication and control of information and data

3.1.20 manual of authorities
document containing the authorities and authority holders within an organization relating to its business, functions and legal entities

3.1.21 post-implementation review
study of the effects of a system after it has reached a stabilized state of operational use

[BS ISO 2382-20:1990, **20.02.09**]

NOTE Examples of systems include a management system for organizing jobs or an engineering system for controlling the internal environment.

3.1.22 post-occupancy evaluation
process of evaluating a building or other facility in a systematic and rigorous manner after it has been built and occupied

3.1.23 RASCI chart
responsible, accountable, supported, consulted and informed chart that is used to summarize the roles and functions performed in a process and the activities within it

[BS 8572:2011, **3.1.20**]

3.1.24 record
information created, received and maintained as evidence by an organization or person

3.1.25 space utilization
measure of whether and how space is being used

3.1.26 sustainable space provision
appropriate and affordable space requirement of an organization

NOTE It is advisable that future needs for space are planned for, taking into account the finances required for maintenance and upkeep.

3.2 Abbreviations

For the purposes of this British Standard, the following abbreviations apply.

BIM	Building information modelling
BREEAM	Building Research Establishment Environmental Assessment Method
CAD	Computer-aided design
CAFM	Computer-aided facilities management
CAPEX	Capital expenditure
CIBSE	Chartered Institution of Building Services Engineers
CO2-eq	Carbon dioxide equivalent
COBie	Construction Operations Building information exchange
DEC	Display energy certificates
EPC	Energy performance certificates
ERP	Enterprise resource planning
IT	Information technology
LEED	Leadership in Energy and Environmental Design
OPEX	Operational expenditure
PEEP	Personal emergency evacuation plans
PPM	Planned preventive maintenance
RASCI	Responsible, accountable, supported, consulted and informed

4 Primary processes

4.1 Information management

4.1.1 General

The organization should determine the extent and nature of its process for managing facility-related information and, in particular, the relationship with existing processes including those for facilities management. Where facility information management does not form an explicit part of the organization's facilities management strategy, the organization should consider making allowance for it at the next available opportunity, for example when updating the strategy.

The facilities management strategy should be aligned with the organization's business strategy with attention paid to any shared information and data that might be involved. Information and data that are shared should be consistent, particularly when updating one or other strategy.

NOTE 1 Facility information management can offer benefits beyond the collection, maintenance, updating, communication and control of information and data. It can provide an important element in the basic infrastructure for facilities management. The efficient and effective use of information is the cornerstone of successful facilities management, enabling the organization to plan ahead by proactively supporting its core business.

A plan for facility information management should be prepared and kept up-to-date. This plan should include a definition of the information management process, the functions or activities within it, the information flows between functions or activities and the controls that have to be applied. Consideration should be given to the use of an IT-based methodology and tools for designing, developing and implementing information management systems so that changes can be tested and their likely impact determined before they are applied. Account should be taken of formal policies and procedures, where they exist, in regard to the use of IT-based systems. The organization should identify those functions or activities that are subject to statutory or other regulatory oversight.

NOTE 2 Attention is drawn to BS 10008.

4.1.2 Information management strategy

The organization should prepare an information management strategy for its facility-related needs and keep it up-to-date. The strategy should set out in broad terms the organization's requirements for collecting, maintaining, updating, communicating and controlling information and data. Sources of information and data, processes, functions or activities and the levels of authority associated with each for the purpose of access should be recorded. Consideration should be given to the use of a manual of authorities to define levels of authority, approvals and access to information and data. Interfaces between the organization and external bodies should be agreed in terms of the information flows between the respective parties. The information management strategy should avoid specifying the detailed content of functions or activities and information flows. Where IT-based systems are currently used or are expected to be used to support facility information management, arrangements should be documented. Roles and responsibilities should be outlined with regard to the levels of authority assigned to them (see **4.1.7**).

The information management strategy should be based on the principle of inclusiveness and the needs of existing and anticipated future occupants and other users should be taken into account, particularly those of disabled people. Where considered necessary, the need for training of personnel should be set out in the information management strategy and detailed in the policy (see **4.1.3**) and procedure (see **4.1.4**) derived from it.

NOTE 1 Attention is drawn to The Equality Act 2010 [1], BS 8878 and the need to implement IT-based systems and equipment that are accessible by all persons, particularly disabled people and those with differing levels of IT literacy.

Account should be taken of the different modes and formats of communication and information required to support the inclusive use of the facility and any training of personnel that might be necessary to assist disabled people.

NOTE 2 A variety of modes and formats exist for communication and information and these include British Sign Language, Makaton, [1)] *lip reading, captioning, signage, audio description, Braille, tactile wayfinding, technically-assisted wayfinding, induction loops and infrared communication.*

[1)] Makaton is a trade mark owned by The Makaton Charity, Manor House, 46 London Road, Blackwater, Camberley, Surrey GU17 0AA. Further information regarding Makaton can be accessed via http://www.makaton.org. This information is purely informative and is given for the convenience of users of this standard. It does not constitute an endorsement by BSI of the system named. Equivalent systems may be used if they can be shown to lead to the same results.

4.1.3 Information management policy

A policy (or policies) for implementing the facility information management strategy should be prepared in consultation with the organization's stakeholders. It is important to identify individual stakeholders and stakeholder groups in order to take into account their legitimate interests, and how those interests should be prioritized. Any relevant legislation and/or codes of practice should be identified and incorporated into the policy (or policies).

4.1.4 Information management procedure

The organization should prepare a procedure (or procedures) governing the implementation of policy (see **4.2**) in accordance with the facility information management plan (see **4.1.1**). The procedure (or procedures) should include definition of the form, structure and content of a facility handbook (see **4.1.5**) that is amenable to electronic storage and retrieval, as well as printing, wherever practicable. The form of the facility handbook should allow content to be updated easily and for versions of it to be recorded and controlled. Where there are existing arrangements for document storage and version control, these should be taken into account to promote a consistent approach to document storage and version control across the organization.

4.1.5 Facility handbook

A facility handbook should be regarded as a primary resource for facilities management and as the main deliverable of facility information management. The facility handbook should be prefaced with the information management strategy, policy and procedure and should contain the following sections as a minimum:

a) legal information (see **5.1**);

b) commercial information (see **5.2**);

c) financial information and data (see **5.3**);

d) technical information and data (see **5.4**); and

e) managerial information (see **5.5**).

The organization should identify information from within a) to e) that is likely to assist occupants and other users in their day-to-day use of the facility and to ensure safe and correct operation of the facility. Consideration should be given to extracting this information and incorporating it into a facility user guide. This guide should be based on information in the facility handbook. Changes to any information in the facility user guide should be as a consequence of updates and changes to the information within the facility handbook. Occupants should be involved in compiling and updating the facility user guide so that it seeks to anticipate and address (as opposed to assuming) their needs, particularly the needs of disabled people.

*NOTE Building manuals and building user guides, BG 26/2011 [7] contains guidance to assist occupants and other users in making the best use of the design features, services and systems of a facility to aid its safe, correct, efficient and effective operation (see **5.4.4**).*

Where the facility handbook is print-based and not held electronically, consideration should be given to the need to update its contents easily. A loose-leaf binder or binders might be appropriate for this purpose.

The organization should provide training for personnel involved in facility information management, particularly regarding the maintenance, updates, communication and control of information and data. Training should be considered for occupants and other users in order to derive the most benefit from the facility user guide.

The contents of the sections within the facility handbook are the subject of further and more detailed consideration in **4.2** and Clause **5**.

4.1.6 Information security and data protection

The organization should maintain a policy and associated procedure for securely storing information and data. Documents and records should be held in a location that has controlled access and under conditions which preserve the condition and integrity of information and data (such as with the use of fire prevention and management systems). Duplicate copies of all records should be maintained and these should be kept in a location other than the facility to which they relate.

The organization should consider undertaking a risk assessment before determining the arrangements for secure storage of information and data.

NOTE Attention is drawn to The Data Protection Act 1998 [6] in regard to the duties relating to information held by an organization, to BS 10008 and to The Freedom of Information Act 2000 [3] in regard to access to information held by an organization.

4.1.7 Roles, responsibilities and accountabilities

The roles, responsibilities and accountabilities of personnel involved in managing the facility and information relating to it should be defined and incorporated within the facility information management policy and/or procedure or held as a separate document or record. In either case, the functions or activities defined in the facility information management process should be listed with their assigned responsibilities and accountabilities. Where practicable, other roles (such as personnel required to be consulted or informed and those who are required to act in support) should be identified.

Where external bodies are involved in managing the facility, including delivering facility-related services and supplies, details should be recorded in the facility handbook. Details of external bodies, their key personnel and lines of communication between them and the organization's personnel should be defined.

The use of RASCI charts should be considered for the purpose of summarizing roles, responsibilities and accountabilities. Annex A gives an example RASCI chart covering typical tasks and allocated roles within the facility information management process.

4.2 Facility-related information and data

4.2.1 General

The organization should state the class to which its facility belongs in accordance with the Uniclass classification system [N1] for structuring project information and data.

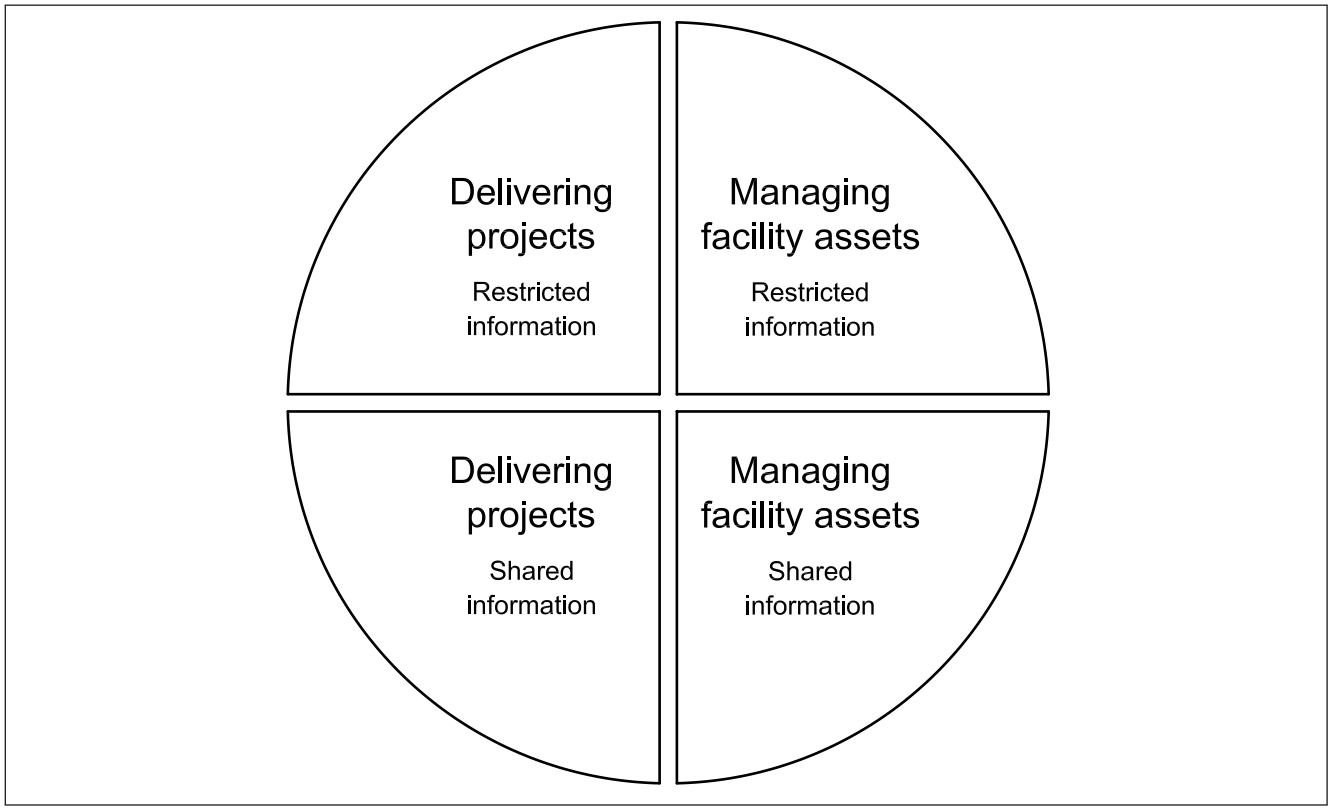
*NOTE 1 Uniclass Table D (Facilities) [N1] provides a classification that covers most types of facility. Close alignment with the Uniclass system in general offers benefits in areas such as cost accounting, maintenance, repair work and benchmarking (see **5.5.15**). Whilst intended for new facilities, adoption of the system can prepare the organization for those occasions where alteration or extension of the facility is necessary.*

The organization should consider the ways and extent to which it needs to categorize its information and data to align with corporate accounting policy and procedures or other requirements and arrangements. Measures should be implemented to avoid duplication of data and the risks that can arise from maintaining separate or stand-alone systems. Consideration should be given to utilizing the organization's cost and management accounting systems when determining the most appropriate arrangement to be used. The impact upon the facility handbook of arrangements that effectively centralize cost and management accounting should be examined carefully and the decision as to which arrangement is adopted should be recorded.

NOTE 2 The extent to which facility information management is IT-based is likely to have a greater or lesser impact upon the controls that can be put in place for sharing or restricting access to information and data. Similar concerns, if they do exist, in regard to projects for the delivery of physical assets can be treated likewise. A more important distinction concerns whether or not the assets are to be maintained at their current level of operation and use or if they are to be enhanced in some way. Such a situation might occur where an upgrade to an existing facility is undertaken or contemplated to increase asset utility and/or value.

A distinction should be drawn between information and data that are related to facility assets and information and data that are related to projects. A further distinction should be drawn between information and data that are to be shared amongst a number of parties or individuals and information and data that are restricted. Figure 1 illustrates these information categories.

Figure 1 – Information categorization



NOTE 3 Facilities management deals with the day-to-day, routine changes that occur within an organization. Significant changes, on the other hand, are often organized as projects. These are not to be confused with a project for the delivery of a facility or an extension to one existing. Where the facility in question is the subject of a project for its delivery, the requirements for managing information fall outside the scope of this British Standard, as stated in Clause 1. For other projects, the organization might need to treat certain information and data separately from others – particularly likely in the case of financial data – because it represents capital expenditure (CAPEX) as opposed to operational expenditure (OPEX). Access to information and data in terms of "who can have access to what" needs to be defined. Some information might be shared amongst many parties at a fairly low level, whereas other data might be restricted to senior managers. In some organizations, a manual of authorities is maintained as the definitive guide as to "who is authorized to do what" and "who can approve what". A distinction might also have to be drawn between organizational approval, i.e. a matter for the business to determine as it sees fit in meeting its targets, and corporate approval, i.e. an executive decision involving financial commitment.

4.2.2 Data elements

The organization should define its information and data in terms of the data elements that are to be managed.

The following steps should be considered as part of the information management process:

a) identification – the definition of appropriate data elements;

b) classification – the categorization of data elements according to purpose;

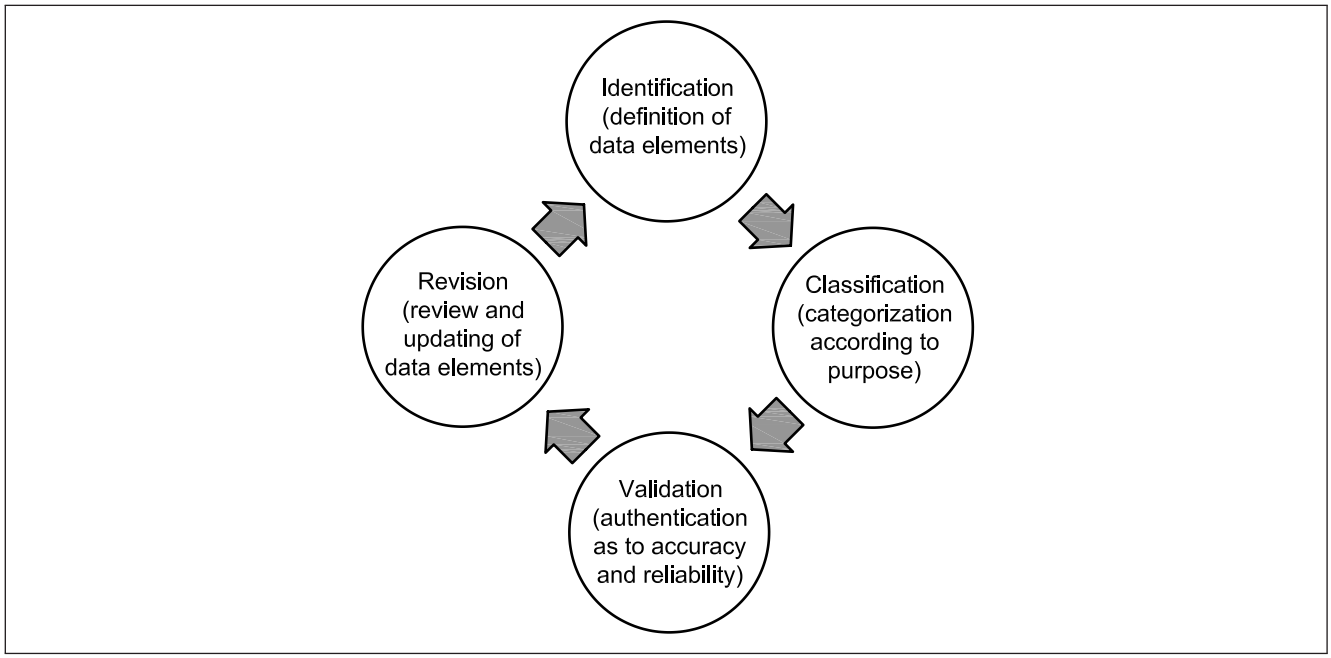
c) validation – the authentication of data elements in terms of accuracy and reliability; and

d) revision – the review of data elements to establish their relevance, updating as necessary.

Figure 2 shows the above steps within the information management process.

*NOTE These steps are primarily concerned with determining the nature and structure of information and data, i.e. data elements, that are to be managed by the organization and which are intended to populate the facility handbook. The collection or capture of data elements is covered in **4.2.4**.*

Figure 2 **Steps in the information management process**



4.2.3 Nature of information and data

In the case of an existing facility, the organization should examine the format of print-based information and data to determine the extent to which it might be desirable to scan into an IT-based system. The organization should assess the information and data already held electronically to determine suitability for incorporation in the facility handbook.

Information and data should be differentiated according to type so that related data elements can be more easily updated. Consideration should be given to classifying data elements in terms of their required degree of accuracy, completeness and time-criticality.

*COMMENTARY ON **4.2.3***

Information and data can serve many different purposes. Some information might, for example, be required urgently so that a timely decision can be taken even though it might not be possible to collect everything and for it to be completely accurate. Such a situation routinely presents itself to managers who need to make a decision immediately, which will affect future actions. Delay in decision-making could prove costly and so it is vital to make a decision on the best possible information available at the time. When reporting on financial performance, particularly the compilation of annual accounts, information and data need to be both accurate and complete. It takes time to collect and consolidate such information and data, which is why a period of grace is normally allowed for reporting and submission. Such examples illustrate that information and data cannot be regarded or treated as if they were all the same. When managing information, it is important to differentiate between the required degree of accuracy, completeness and time-criticality. It is important that personnel are made aware of these requirements, especially when collecting information and data. Aside from the above points, there is the matter of resources. Time spent painstakingly gathering accurate data might be of no benefit to the ultimate users who could, in the process, lose valuable time. Alternatively, they might have made a satisfactory decision based on information and data that are considered to be good enough.

4.2.4 Information and data collection

The nature of facility information management is such that some data elements can be collected regularly, almost as a continual operation; whereas others can be collected at intervals. Cycles of information and data collection should be determined by the organization with regard to the purpose of the activity and requirements defined in its information management strategy, policy and/or procedures.

4.3 Information handover

4.3.1 General

In the case of a new facility, the organization should require the design and construction team to provide as-built information and other documentation necessary for the safe and correct operation of the facility in electronic form. The organization should agree the format of this information with the design and construction team and the timing of information handover (see also **4.3.2**). To assist in this process, the organization should request that an information handover plan is prepared during the design phase by the designer, or other party with responsibility assigned for this task, to enable adequate preparations and training to be arranged by the organization in advance of commissioning, handover and start-up of the facility. The deliverables should be defined in the information handover plan, including their timing and the format in which they are to be provided. The organization should confirm the acceptability (or otherwise) of this plan.

4.3.2 Building information modelling (BIM)

In the case of an existing facility, the retrospective application of building information modelling should be considered since it confers a number of advantages for organizations in their management of facilities over the medium to long term. The organization should investigate the feasibility of creating a building information model that captures the geometry, spatial relationships, geographic information and the quantities and properties of building components and systems.

*COMMENTARY ON **4.3.2***

There are a number of standards covering building information modelling, such as PAS 1192-2.

A building information model overcomes shortcomings in the traditional handover of as-built information on paper by providing an electronic version of the facility that is both dynamic and easy to update. Under the traditional approach, static information in the form of drawings and specifications, for example, can be fragmented and uncoordinated. Moreover, changes might not be recorded so that, over time, the drawings and specifications that once represented the as-built facility are no longer valid. The creation of a building information model provides information and data about the physical attributes of the facility. In turn, the model establishes a baseline for facilities management, including the management of subsequent changes to the facility. Over time, the model can provide a rich history of the facility that has a value in future business decisions and, if the need arises, when disposing of the facility. A number of maturity levels are defined – from 0 to 3 – to help in understanding the technology and application of BIM (see PAS 1192-2). Distinguishing between the levels enables organizations to recognize their current level of maturity as well as pointing to the changes that are required to achieve the next level. Level 1, for instance, signifies the use of managed 2D or 3D CAD systems in collaborative work involving standard data structures and formats; whilst commercial data are managed by stand-alone systems. Level 2, on the other hand, signifies a managed 3D environment involving separate discipline BIM tools with attached data; whilst commercial data are managed by an ERP system integrated through means of proprietary interfaces or bespoke middleware.

4.3.3 Standards and protocols for information modelling

It is recommended that the organization recognizes and adheres to accepted standards in building information modelling, in particular the definitions and protocols that govern the structuring of information and data. In the case of a new facility, it is necessary for the organization to anticipate deliverables, known as data drops (see **4.3.4**), within the information handover plan and the expectations of designers and other interests in terms of the information and data that they require to undertake their work as part of the progressive development of the building information model. The organization should anticipate and, where appropriate, should plan for the need to exchange information about its facilities using the Construction Operations Building information exchange (COBie), currently version 2 (i.e. COBie2).

NOTE Further information regarding COBie2 can be found at: http://www.bimtaskgroup.org/cobie-uk-2012/.

4.3.4 Data drops

Within the lifecycle phases of the design, construction and operation of a facility are points at which information and data are required to be delivered for the purpose of maintaining and developing a building information model. In the case of a new facility, these points coincide with gateways, i.e. decision gates, in a stage-gated process for delivery of the asset, and involve deliverables known as data drops. These data drops should be planned (see **4.3.1** and **4.3.3**) and aligned with the organization's internal processes and systems so that the latter are capable of receiving the necessary inputs and being acted upon. The extent to which the evolving building information model aligns with, and satisfies the organization's requirements, should be assessed at these data drop points. Any discrepancy or divergence between the organization's requirements and the information in the building information model should be communicated with the designer, or other party responsible for the model's development, as soon as it becomes evident.

4.4 Systems and interfaces

Facilities management covers a diverse range of functions or activities, some of which are performed manually and others which are assisted by computer. The use of IT in this regard should be defined by the organization to indicate both manual and computer-assisted processes, as well as interfaces to other electronic systems and, where relevant, external bodies. Consideration should be given to the preparation of an information map to show functions or activities, both manual and computer-assisted.

The organization should adopt an integrated approach to the management of its facility-related information and data. The use of a computer-aided facilities management (CAFM) system to support an integrated approach should be considered if one has not already been implemented. In choosing a CAFM system, applications and capabilities that are likely to provide a suitable basis for assisting in the management of the organization's facility-related information and data should be implemented.

The following should be considered:

a) budgetary and other financial controls;

b) cost accounting;

c) asset register;

d) condition-based monitoring of assets;

e) early detection of problems and rapid fault reporting;

f) operational plans including frequency of functions or activities to be performed;

g) risk and hazard assessment;

h) identification of any relevant statutory and other regulatory requirements;

i) permits to work;

j) PPE equipment issued and returned;

k) planned preventive maintenance (PPM) – actual compared to planned;

l) reactive maintenance;

m) change management;

n) job orders and other requisitions for goods and services;

o) job logging, prioritization and tracking (including details of backlogs);

p) energy use and carbon dioxide equivalent (CO2-eq) emitted per annum (see **5.4.10**);

q) resource consumption and productivity measures;

r) analysis of work undertaken to identify trends;

s) import/export of COBie information (see **4.3.3**);

t) space planning and space utilization (see **5.5.14**);

u) workstation location and furniture management;

v) performance indicators for the delivery of services;

w) end-user experiences of services delivered;

x) exception reporting for management purposes (see **5.3.7**); and

y) audit trail of system transactions.

Additionally, a CAFM system should be selected that is capable of interrogation in real time with minimum latency.

5 Information and data

*COMMENTARY ON CLAUSE **5***

*Information and data are required for a variety of purposes and might exist as complete or partial documents and records. Since this British Standard cannot anticipate the extent of information and data held by individual organizations, it is not possible and, indeed, it would be impractical to consider the extent of information and data completeness in terms of what is to hand and what is not. In broad terms, Clause **5** makes recommendations as to the information and data to be collected, maintained, updated, communicated and controlled. It is important for the organization to recognize the need to determine the extent of information and data given its intended purpose and/or the requirements it might have to satisfy. Rather than repeat similarly structured recommendations in terms of collection, maintenance, updating, communication and control (of information and data), this clause concentrates on actions relating to more general recommendations. In many instances, it is sufficient to note that the information and data need to be recorded, implying that if it has not already been collected then it needs to be. It is important to bear in mind that a primary deliverable is the provision of a facility handbook and, therefore, the collection of information and data are used to provide a complete and accurate account of the requirements for the safe, correct, efficient and effective operation and use of the facility, as far as is practicable.*

5.1 Legal information

5.1.1 General

The extent to which the organization is required to maintain and retain documentation about its facilities should be established and any legislation relevant to this, identified.

*NOTE It is important to note that **5.1** is not exhaustive of each and every data element that the organization might be required to possess.*

5.1.2 Identification

The organization should give the facility a unique identity by whatever means is necessary in order to provide reasonable evidence of its ownership or other entitlement. Where the facility is subject to multi-tenant occupancy, details should be recorded in the facility handbook. Plans showing the layout of buildings and other structures on all levels should be incorporated in the handbook showing boundaries between different ownership or entitlement. It is advisable to give the essential characteristics of the facility so that users of the handbook are afforded a reasonable appreciation of the facility's purpose and the type and extent of processes and activities being undertaken.

*NOTE Building manuals and building user guides, BG 26/2011 [7] contains guidance to assist occupants in making the best use of the design features, services and systems of a facility to ensure its safe, correct, efficient and effective operation (see **5.4.4**). See Annex B for an example of a building manual contents list. See Annex C for an example of a building user guide contents list.*

5.1.3 Admissibility of electronic information

The organization should identify any legal requirements relevant to the admissibility of information and data relating to the facility and storage and access conditions.

NOTE See BS 10008 for further information.

5.1.4 Records and registers

The organization should identify and communicate to the relevant parties any legal requirements appropriate to the retention and maintenance of its facility-related records and registers, data and information.

5.1.5 Asset registers

The physical assets comprising the facility should be described and supported by documentary evidence to assist in identifying them uniquely, as well as providing essential information to inform the facilities management process. The extent of information and data necessary for this purpose should be determined by the organization.

The organization should identify any legislation and legal requirements relevant to the maintenance of asset registers.

Other information may be included in an asset register, for example:

a) the identification number or unique reference for the asset;

b) the manufacturer;

c) the vendor, if different to manufacturer;

d) the date of manufacture;

e) the date of acquisition, installation or completion of construction;

f) the make and/or model;

g) the specification;

h) the projected lifetime;

i) the warranty period (see **5.4.12**);

j) the replacement cycle;

k) the initial cost;

l) the cost breakdown;

m) the servicing requirements including type and frequency of service;

n) the other maintenance required;

o) the maintenance costs;

p) the accumulated depreciation;

q) the written-down value;

r) the source of components and spare parts, where applicable;

s) the energy consumption and, where applicable, energy-efficiency rating; and

t) the identification of hazardous or other risks to people or property.

See **5.4.12** regarding warranties relating to plant, equipment, materials, components and systems.

5.1.6 Approvals and permits

The organization should determine the extent to which approvals and permits apply to the facility under normal operating conditions and any additional permissions that may be required where operations are to be carried out differently to those for which approvals and permits are currently held. Details should be recorded in the facility handbook.

In the normal course of operations, operatives, occupants and other users of the facility might be required to provide evidence of their competence, eligibility or other material fact to indicate that they are capable of safely and correctly operating the facility and the plant, equipment and systems that form part of it. Details should be recorded in the handbook.

5.1.7 Risk assessments

The organization should record risk and hazard assessments in the facility handbook. The organization should consider assessments where any activity or process might involve special arrangements or undertakings that could impact normal operations within the facility. Critical activities should be clearly identified and consideration given to any business continuity management requirements (see **5.5.17**).

5.1.8 Inspections and tests

The organization should consider other inspections and tests that might be necessary as part of a broad approach to facilities management and incorporate details in the facility handbook. Inspections and tests that should be considered in this regard include those related to:

a) personal well-being (see **5.5.3**);

b) protection of personal property;

c) energy-saving practices (see **5.4.10** and **5.5.14**);

d) water management (see **5.4.7**);

e) recycling of waste products and materials; and

f) protection of building fabric and finishes.

Consideration should be given to providing information that helps occupants and other facility users to understand the arrangements for the segregation and collection of different types of waste and for conserving water (see **5.4.7**).

5.1.9 Employment and personnel

Relevant legislation relating to the employment of persons engaged in the delivery of facility-related services and supplies and other obligations and duties, including consultation with stakeholders, should be identified and documented in the facility handbook. Details of decisions relating to employed persons in connection with the delivery of services and supplies and of any transfer of employment should also be recorded in the facility handbook.

NOTE Attention is drawn to The Data Protection Act 1998 [6], The Equality Act 2010 [1] and The Transfer of Undertakings (Protection of Employment) Regulations 2006 [2].

5.1.10 Health and safety

In the case of an existing facility, the organization should ensure that, where a health and safety file has been prepared, it is incorporated in the facility handbook. Provision should be made in the handbook to cross-reference any other information relating to health and safety for ease of access and to avoid error or inconsistency.

NOTE 1 Attention is drawn to The Health and Safety at Work etc. Act 1974 [4].

NOTE 2 Attention is drawn to The Construction (Design and Management) Regulations 2007 [5] for proposed new facilities or planned alterations or extensions. At the time of publication, this includes a requirement to hand over a health and safety file at the end of construction.

5.1.11 Equalities and disabled people

The organization should provide information for disabled people and others using or visiting the facility who might have equalities-related needs or concerns. This should be available in advance of and upon arrival at the facility, to explain the provisions for access, movement and their emergency evacuation.

All provisions should be reviewed periodically to ensure that they remain current.

NOTE Attention is drawn to The Equality Act 2010 [1] concerning statutory obligations relating to stakeholder engagement and to requirements in regard to access and inclusion objectives, strategies, policies and guidelines. Attention is also drawn to The Regulatory Reform (Fire Safety) Order 2005 [8] and requirements for personal emergency evacuation plans (PEEP) for disabled people.

5.1.12 Environmental sustainability

The organization's policy and procedures should be incorporated within the facility handbook and reviewed periodically to ensure that they remain current.

5.2 Commercial information

5.2.1 General

The organization's commercial interests in the facility should be recorded with specific reference to written agreements and contracts. Original documents, such as leases and tenancy agreements, should be securely stored away from the facility and protected from the risk of fire, flood or other damage. A summary of the duties and responsibilities of each party should be recorded in the facility handbook.

5.2.2 Valuations

Valuations of the property comprising the facility, and of its contents, should be recorded and, where disclosure would not compromise the organization's commercial interests, details should be incorporated in the facility handbook. A schedule should be implemented for carrying out and recording up-to-date valuations for the purpose of insurance. Wherever practicable, these valuations should be maintained in the facility handbook.

5.2.3 Leases and tenancy agreements

The organization should record details of leases, sub-leases, tenancy agreements and any other interest in the property comprising the facility. Where involved in the assignment or sub-letting of any part of the facility, the organization should record those details that are necessary to retain effective control over management of the facility, such as rights of access and inspection. These details should be incorporated within the facility handbook.

Where the facility is the subject of a green lease, the organization should co-ordinate policies and procedures intended to conserve resources with efficient and effective use of the facility. Details of such policies and co-ordination should be incorporated within the handbook.

NOTE Green leases make use of incentives to align the parties, i.e. landlord and tenant, within the terms of a lease agreement toward sustainable business practices that involve, for example, conservation of resources and waste elimination, while helping to maintain a safe and productive internal environment.

5.2.4 Service level agreements

Where service level agreements exist, the organization should detail these in the facility handbook. Those that arise from assignment or sub-letting (see **5.3.4**) and those which are required for the overall management of the facility should be differentiated.

5.2.5 Service charge agreements

Where any part of the facility is subject to assignment or sub-letting, the organization should record the basis of the agreement and schedule of charges in the facility handbook, updating it when necessary.

5.2.6 Other agreements and contracts

The organization should record the details of any other agreement or contract that affects its or a third party's commercial interest in the use of the facility in the facility handbook, updating it when necessary.

NOTE An example is a permission granted to a third party, for instance, allowing an antenna or advertising hoarding on the roof. In some cases amenities such as a health or fitness club, or a café or restaurant might be shared in a multi-tenanted facility.

5.3 Financial information and data

5.3.1 General

The organization should define the extent to which the management of financial information and data relating to the facility forms part of corporate cost and management accounting, including processes, procedures and systems. In cases where there is a division between practices designed for corporate purposes and those specifically for facilities management, the organization should determine the interfaces between the functions or activities and the roles and responsibilities to be exercised. The use of a manual of authorities should be considered to help clarify arrangements and responsibilities.

NOTE It might be impractical or unnecessary to expect or suggest changes to corporate cost and management accounting to accommodate the requirements for facility information management. It is, however, critical to control information flows and correctly undertake functions or activities, noting that they might be governed by legal regulations or accounting standards.

The organization should maintain up-to-date information at all times regarding the cost of operating its facility. This cost should be broken down, as necessary, to enable control over expenditure against individual and group cost items and their associated budgets (see **5.3.3**).

5.3.2 Procurement of services and supplies

The organization should establish the extent to which corporate financial systems extend to the procurement of facility-related services and supplies. Details of such systems, including applicable policy and procedures, should be summarized in the facility handbook.

NOTE 1 See BS 8572 for detailed arrangements with regard to the information and data required to support the procurement process.

NOTE 2 Existing corporate financial arrangements are likely to override any that might apply to non-core business processes, i.e. facilities management. In most cases, it is necessary to incorporate details of financial systems, policy and procedures within the facility handbook so that the extent of financial systems and the information and data they handle is properly documented. Transparency and auditability are central to this concern.

5.3.3 Budgets

Whilst budgets might be confidential to personnel with specific levels of authority, provision for this information should be made within the facility handbook as a matter of good practice. The organization should determine whether or not budgetary information should be recorded in the handbook or held elsewhere. In the latter case, reference should be made to its location and the level(s) of authority required to access it within the facility handbook.

NOTE The rationale for including budgetary information within the facility handbook is to enable account to be taken of the need to report costs and other relevant data for the supply of facility-related services. Facility managers are normally responsible for providing estimates of the cost of facility and estate-related services for successive financial years so that provision can be made by the organization to meet future expenditure. Financial planning and control cannot be effective if cost data are unavailable.

5.3.4 Contract administration

Details of orders placed and contracts awarded should be recorded in the facility handbook. The following information should be provided as a minimum:

a) the name of the service or supply;

b) the name of the service provider or supplier;

c) the reference number or code for uniquely identifying a transaction;

d) the contract sum or monetary value of a purchase order;

e) the purchase date;

f) the basis of price (e.g. fixed or variable, including reimbursement of increased costs);

g) the term of the contract or order;

h) the apportionment of costs to financial years;

i) the details of incentives or penalties;

j) the budget allocated;

k) the statement of whether or not the budget is likely to be exceeded; and

l) the authority for approval.

5.3.5 Cost accounting

The organization should state the basis of its cost accounting policy and procedures and record this information in the facility handbook. Consideration should be given to the incorporation within the facility handbook of costs relating to approved expenditure and the work items and service provisions to which these relate. Wherever practicable, an auditable trail of transactions should be made available to authorized persons or reference made to the location of this information.

NOTE It is unnecessary to duplicate cost accounting systems and procedures to cover facilities management where the former are provided for the organization as a whole. In cases where a particular process, system or procedure is established for the core business then reference to that arrangement might be sufficient.

5.3.6 Performance measurement

Information and data on the performance of services and the work items they comprise should be measured and recorded (see **5.5.11**). The scope and degree of breakdown of this information should be defined in service level agreements (see **5.2.4**) and be sufficient to enable comparisons to be made at predetermined intervals for the purpose of establishing progress against targets. Performance data should be cross-referenced to work items and the services and/or contracts of which they form a part. Consideration should be given to portraying the results of comparisons and other analyses in graphical form so that trends or other patterns can be easily detected.

NOTE It is important for the organization to determine the extent of measurement that is required when drafting service level agreements. A golden rule is to measure those items that reveal actual progress against planned performance in areas of service provision that are critical to the successful delivery of facility-related services in supporting the core business of the organization: in other words, the key performance indicators. For this reason, it is important not to embark upon measurement of each and every facet of work performed. Aside from the time and resources involved in collecting such data, there is a danger that subsequent analysis could provide information that is of little or no benefit to senior managers. In the worst case, such information could prove counterproductive.

5.3.7 Reporting

The organization should specify the form and content of the reports it requires for financial purposes and for supporting the day-to-day management of the facility. Wherever practicable, the capabilities of any IT-based systems used in this regard should be configured to avoid manual entry or duplication of data. IT-based systems should be capable of allowing ad hoc queries to be performed on the database and for reporting to be customized to suit system user requirements.

As a general requirement, reporting should enable the organization to comprehend the current status of its facilities management in terms of its expenditure against approved budgets, accompanied by any indication of over-expenditure or significant under-expenditure. The organization should use reporting to forecast its total expenditure against its current commitments and to identify any potential cost or budget overrun.

IT-based systems should be implemented in order to support the requirements of corporate accounting policy and procedures. The organization should establish the availability of these features before committing itself to the use or purchase of systems (see **4.4**).

5.4 Technical information and data

5.4.1 General

The organization should set out its requirements in regard to the technical information and data needed to operate the facility safely and correctly.

NOTE See BS 8210 for further information.

5.4.2 As-built information

The starting point for considering technical information and data is the facility's as-built information covering its design and construction and any subsequent changes to either. The organization should incorporate the as-built information into the facility handbook. Plans showing the layout of the facility on all levels, including key dimensions and measurements, should be incorporated in the handbook and indicate, as a minimum:

a) points of entry and exit, including means of escape;

b) toilets and changing facilities;

c) lift and escalator access;

d) temperature control points;

e) break-glass fire alarm activation points;

f) fire extinguishers and hose reels;

g) first aid boxes; and

h) reception and helpdesk (see **5.5.7**).

The requirements for providing as-built design information should be considered in the wider context of building information modelling (see **4.3.2**).

NOTE A building information model offers many advantages from the integration of information and data across the phases of the facility lifecycle. For owners, the availability of unambiguous spatial information and component details, amongst other information, provides a vital baseline for operations and maintenance.

5.4.3 Making good defects

In the case of a new facility, a certificate of making good defects or similar record confirming the remedying of defects should be incorporated within the facility handbook.

5.4.4 Building log-book and building manual

Where a building log-book is available, it should be incorporated in the facility handbook. Where no building log-book is available, information and data on the operation and maintenance of the facility, including steps to conserve fuel and power, should be incorporated in the handbook. The organization should ensure that the requirements for a building log-book are satisfied by provisions made in the handbook.

NOTE 1 Attention is drawn to The Building Regulations 2000, Approved document L2A [9] concerning the conservation of fuel and power in new buildings other than dwellings and the requirement for a building log-book.

NOTE 2 The building log-book was conceived as a single reference source for information needed to operate a building and for those with responsibility for the building to be able to understand their obligations and duties. It summarizes design assumptions, describes major building services installations, including operational and maintenance requirements for the safe and correct use of the facility, in terms that non-specialists can follow. The intention is that the building log-book should be a dynamic document that records the performance of the facility over time and that it should cover energy performance as well as maintenance work. Building log book toolkit, TM31 [10] provides guidance in this regard.

Where a building manual and/or building user guide has been prepared it/they should be incorporated in the facility handbook.

NOTE 3 Building manuals and building user guides, BG 26/2011 [7] has been published to help those responsible for creating documentation that supports building regulations requirements with respect to the building log-book and building user information for BREEAM (BRE Environmental Assessment Method). Building manuals and building user guides are intended to exceed the minimal requirements laid down for building log-books. Similarly, the facility handbook is intended to extend the scope of building manuals by considering requirements in the context of facility information management. Typical tables of contents of a building manual and building user guide are given in Annex B and Annex C, respectively.

5.4.5 Building structure and fabric

Information describing the facility's structure and fabric (both internal and external) should be recorded in the facility handbook. Key features and maintenance requirements of the facility's structure and fabric should be detailed in the facility handbook so that their performance in use can be checked against intended function.

5.4.6 Building services installations

Information describing the facility's building services installations should be recorded in the facility handbook. Details should include points of entry for supplies of public utilities.

The organization should determine the extent to which it intends to prescribe requirements for the maintenance of building services installations and should stipulate the maintenance requirements for its heating, ventilation, air conditioning, plumbing and electrical services installations, incorporating all details in the facility handbook. This should include the tasks to be undertaken and their frequency.

Account should be taken of the following attributes of the major physical assets comprising building services installations:

a) current condition;

b) current utilization or output;

c) maintenance tasks to be performed;

d) frequency of maintenance; and

e) estimated cost of maintenance.

It is also important to identify any statutory and other regulatory requirements relevant to the building services installations.

NOTE See the Standard maintenance specification for building services, SFG 20 [11] for further information. This is an industry standard for the management, specification and delivery of building services systems maintenance. It can be useful when framing tendering requirements and, later, during operation and use when benchmarking the costs of service provision. The standard specifies tasks that need to be performed and the frequency of those tasks to keep physical assets in the best operational condition.

5.4.7 Drainage and water recycling

Information regarding the facility's drainage systems above and below ground should be recorded in the facility handbook. Where there is any separation of outflow from the facility, including rainwater run-off from external surfaces, this should be detailed in the facility handbook. Where rainwater harvesting is utilized, this should also be detailed in the facility handbook (see **5.1.8**).

5.4.8 Condition survey

The condition of the facility in terms of its structure, fabric, building services installations, finishes, fittings and furnishings should be recorded in the facility handbook and updated as and when changes occur or are first observed. The organization should consider periodic condition surveys as a basis for keeping these records up to date. The frequency of surveys should be planned in conjunction with programmes of planned preventive maintenance (PPM) or other periodic work. It is important to maintain a current understanding of the condition of the facility as far as is practicable.

Where the need arises for inspections on an ad hoc basis in response to circumstances affecting the facility, information and guidance regarding them should be included in the facility handbook. The format of condition surveys and inspection reports should be determined by the organization taking into account the need to easily update existing records to reflect any change in conditions. Additionally, the means for notifying relevant stakeholders as to conditions that might affect them or about which they have a legitimate interest should be determined, agreed and recorded.

5.4.9 Environmental assessment

Information and data relating to the facility's environmental impact and any formal assessment of it should be recorded. The organization should determine an appropriate methodology for systematically reviewing the environmental performance and impact of the facility throughout its operation and use. Any relevant legal requirements affecting data collection, reporting and display of information relating to the facility's energy performance should be identified (see **5.4.10**).

In the case of a new facility, assessments and reports covering the facility's environmental impact should be incorporated within the facility handbook. This should be cross-referenced to information about the facility's as-built information or any subsequent updating of it.

NOTE BREEAM (BRE Environmental Assessment Method) and LEED (Leadership in Energy and Environmental Design) provide a basis for measuring the environmental performance of a proposed design. A derivative method is BREEAM In-Use which, as the name implies, is applied during the operational phase. Its purpose is to reduce operating costs and improve environmental performance.

5.4.10 Energy performance

Information relating to energy performance of the facility should be recorded in the facility handbook together with details of the standard or rating system adopted. The organization should record details of:

a) energy consumption by type of space and/or activity;

b) energy consumption by type of fuel or renewable source;

c) carbon dioxide equivalent (CO2-eq) emitted per square metre per annum (see **4.4**);

d) actual CO2-eq emissions compared to target emissions;

e) energy-saving practices (see **5.1.8** and **5.5.14**); and

f) energy generation, where applicable.

Any legislation relevant to the energy performance of a facility should be identified. Relevant details should be recorded in the facility handbook.

NOTE Attention is drawn to The Building Regulations 2000, as amended, 17E: Energy Performance Certificates [12] and The Building Regulations 2000, Approved document L2A [9]. It is important to note that in some instances, energy performance certificates (EPCs) and/or display energy certificates (DECs) might be required.

5.4.11 Operating procedures

The organization should define operating procedures for the facility in general and, specifically, in regard to building services installations and other engineering systems not forming part of the processes of the core business. Information should be recorded in the facility handbook alongside, or as part of, details incorporated from either the building log-book or building manual. Particular attention should be drawn to critical systems within and outside the facility and requirements in this regard.

5.4.12 Warranties, repairs and spare parts

Details of any warranties relating to plant, equipment, materials, components and systems should be recorded in the facility handbook and cross-referenced to those operational and maintenance requirements that affect them. Where repairs are undertaken, details should be recorded in the facility handbook. A list of spare parts should be kept up to date.

Details included in the facility handbook should include the following, as a minimum:

a) description of part;

b) identification number or unique reference for the part;

c) original manufacturer of part;

d) contact details of current manufacturer and/or distributor;

e) predicted lifetime of part;

f) operational parameters affecting lifetime of part;

g) minimum number of parts to be held in stock (within or near to the facility);

h) where permissible, details of any alternative part and its source;

i) availability and minimum delivery period;

j) warranty period;

k) estimated cost of part;

l) transportation and logistical considerations;

m) details of other parts potentially affected by failure and/or replacement;

n) specialist equipment or tools required;

o) whether any specific competence is required; and

p) details of special conditions or arrangements when installing.

The organization should schedule periodic reviews of this information to check whether it is current and to update as necessary.

NOTE It is important to keep information such as this up to date in order to minimize disruption and/or loss of business continuity in the event of any breakdown or failure.

5.4.13 Method statements

Where any aspect of the management of the facility necessitates the preparation of a method statement or procedure, details should be incorporated in the facility handbook. When deciding whether information within a method statement or procedure should be fully detailed or summarized, consideration should be given to their extent and frequency of use. Procedures that are necessary for the day-to-day operation of the facility should be readily available and, ideally, should be accessible via the organization's intranet, or other means of internal communication, at locations within the facility based on the activities to which they relate, and/or circulated to affected personnel in printed form.

NOTE 1 There are certain method statements which are required under legislation, for example health and safety, and it is important that these are readily accessible at all times. Other statements and procedures might not be referred to so frequently and could be archived until required. Under such circumstances, it is important to know what information is held and where, together with the arrangements for gaining access and, where applicable, the level of authority required. Attention is drawn to The Health and Safety at Work etc. Act [4].

NOTE 2 Communication of information by the most efficient and effective means depends on factors such as size and complexity of the organization and the extent to which IT-based systems are embedded in work practices. The most appropriate means for communicating information effectively and facilitating action is identified independently, irrespective of available IT-based systems.

5.4.14 Maintenance schedules

The organization should record all planned and performed maintenance. Schedules of planned preventive maintenance (PPM) or other work which is necessary to continue operations in the facility should be incorporated in the facility handbook and cross-referenced to job-logging, prioritization and tracking, including financial data. Information about PPM should be made available to users of the facility who might be affected by it. Consideration should be given to the communication of this information via the organization's intranet, or other means of internal communication, and/or by circulating it in printed form.

5.4.15 Service specifications

The organization should determine whether or not service specifications should be incorporated in full in the facility handbook. Depending on the extent of specifications, it might be acceptable to summarize the main requirements within the facility handbook. Any process or activity that could pose a risk for users of the facility should be documented in the facility handbook. How information about such risks may be made readily available to persons likely to be affected should also be detailed in the facility handbook.

The organization should consider the advantages of performance-based specifications, i.e. output specifications, as these are focused on measurable outcomes and can be comprehended by a wider group of people, including those without specialist knowledge.

5.5 Managerial information

5.5.1 General

The organization should identify the nature, form and extent of the information and data required for the effective and efficient operation of the facility as part of its information management strategy, policy and procedure. Details should be recorded in the facility handbook and should help users to derive the most benefit from the use of the facility. The aim should be to support day-to-day operations by sufficient and reliable information and data.

5.5.2 Organization and resources

A chart showing the organization in terms of its functional areas, the relationship between them and lines of communication should be incorporated in the facility handbook. Details of the human resources attached to functional areas should be included, as far as is practicable with regard to matters such as security and commercial sensitivity. Personnel with responsibility for health and safety or other matters affecting the well-being of occupants and other users should be recorded. Contact details such as those for use in case of emergency, as well as in matters relating to security in general, should be included (see **5.5.3**).

5.5.3 Security, safeguarding and well-being

Arrangements for maintaining appropriate levels of security and the well-being of occupants and other users should be outlined and incorporated in the facility handbook. Personnel with responsibility for security should be identified with contact information in the facility handbook and a summary of their duties included. Details of surveillance operations, including the use of CCTV or other means of observation, should be outlined, together with arrangements for contacting external bodies in the event of a breach in security or other incident. Where the organization maintains areas within its facility for the detention of individuals, the arrangements, responsible persons and their contact details should be recorded as a minimum.

NOTE Most facilities do not require any special areas or services for the detention of individuals, other than those designed exclusively for this purpose. Exceptions include stadiums, some major commercial developments and facilities serving the needs of vulnerable people. Security in this context is a specialist function and the services, as well as information about them, would be subject to further and detailed consideration. These matters fall outside the scope of this British Standard.

5.5.4 House rules

In the normal course of managing a facility, it is necessary to make occupants and other users aware of matters such as operating hours, arrangements for out-of-hours working, appropriate and inappropriate behaviour, individual responsibilities and actions in the event of an incident or emergency. Details of these requirements should be recorded in the facility handbook and made available to all occupants and, where appropriate, other users of the facility including those visiting for short periods (see **5.5.5**). Consideration should be given to the circulation of these details via the organization's intranet, or other means of internal communication, and/or by circulating them in printed form (including posting on notice boards in locations where they will be regularly observed).

5.5.5 Arrival and reception

Arrangements for dealing with visitors to the facility should be outlined and recorded in the facility handbook. In addition to matters required under statutory obligations and duties, for example those relating to health and safety, visitors should be provided with appropriate means of identification and information about their responsibilities whilst in the facility. Arrangements in regard to auxiliary aids and assistance procedures should also be recorded in the facility handbook.

NOTE 1 Matters relating to the movement of visitors within the facility fall outside the scope of this British Standard.

*NOTE 2 Attention is drawn to The Health and Safety at Work etc. Act 1974 [4] and The Equality Act 2010 [1]. See **5.1.11** regarding PEEP.*

5.5.6 Emergencies

Arrangements for dealing with incidents, accidents and other emergencies, including arrangements for the evacuation of disabled people (see **5.1.11** and **5.5.5**), should be incorporated in the facility handbook.

NOTE Attention is drawn to The Health and Safety at Work etc. Act 1974 [4] and The Equality Act 2010 [1].

5.5.7 Helpdesk

The organization should maintain a helpdesk to assist occupants and other users in gaining the maximum benefit from their use of the facility. The helpdesk may be a physical arrangement insofar as it has a location that is accessible to occupants and other users, or it may be a virtual arrangement. Whichever arrangement is adopted, details should be provided within the facility handbook and circulated to all users via the organization's intranet, or other means of internal communication, and/or in printed form. Details of the support that the helpdesk is intended to provide should be outlined and cross-referenced to other sections of the facility handbook. The organization should determine the extent to which the helpdesk function extends beyond dealing with general enquiries and other day-to-day matters. In those cases where the helpdesk function extends, for example, to the direct management of emergency repairs and reactive maintenance, information sufficient to document policies and procedures should be incorporated in the facility handbook.

Routine requests for assistance or other support in regard to day-to-day operations should be channelled through the helpdesk with the arrangements for handling requests recorded in the facility handbook.

Specific arrangements for dealing with incidents, accidents and other emergencies should be recorded in the facility handbook and circulated via the organization's intranet, or other means of internal communication, and/or in printed form. The requirement for any follow-up actions should be outlined and recorded in the facility handbook.

5.5.8 Quality control

The organization should determine the extent to which matters relating to quality control are covered by, and incorporated in, the facility handbook rather than by any quality systems in place within the organization. It is important that there is no loss of consistency between control over performance of the organization's facilities management and quality control of its core business processes. Details of the arrangements for maintaining consistency should be incorporated in the facility handbook.

NOTE 1 Matters relating to the quality control of services delivered as part of the organization's facilities management are not covered by this British Standard.

NOTE 2 See BS EN 15221-3 and BS EN 15221-5 for further information regarding quality control.

5.5.9 Post-implementation review

In the case of a new facility, a post-implementation review (sometimes referred to as a post-construction review) should be undertaken during the first few months of occupation. A review should be undertaken within one year after construction. The review should identify the extent to which the facility satisfies the organization's requirements in terms of its design, construction and operability. Details of the review should be fed back to the designer or design team and other stakeholders, as determined by the organization, and should be recorded in the facility handbook together with any actions that have been agreed.

*NOTE During the early years of occupancy of a facility, it is important to monitor performance, to deal with any problems and questions from occupants and other users, to undertake post-occupancy evaluations (see **5.5.10**) and to discuss, act upon and learn from the outcomes. The soft landings framework, BG 4/2009 [13] has been developed to assist owners and occupiers in getting the best out of their new or refurbished facility by providing a unified approach to engaging with outcomes throughout an integrated process of briefing, design and asset delivery. The framework aligns with energy performance criteria (see **5.4.10**), building log-books (see **5.4.4**), building manuals (see **5.4.4**), green leases (see **5.2.3**) and corporate social responsibility duties (see **5.5.12**). The emphasis is upon greater involvement of designers and constructors with the facilities management team and occupants before, during and after completion of construction, with the aim of improving operational readiness (the concept of a flawless start-up) and improving performance in use.*

5.5.10 Post-occupancy evaluation

The organization should undertake, as part of its facilities management, a post-occupancy evaluation at prescribed intervals to determine occupants' satisfaction with the facility and any actions that might be needed to correct failings or improve their experience. Details of evaluations should be summarized and recorded in the facility handbook. Consideration should be given to circulating this information via the organization's intranet, or other means of internal communication, and/or in printed form.

5.5.11 Performance management

Details of the performance of service providers and/or in-house teams in delivering facility-related services should be measured, analysed and reported. Summary information should be incorporated in the facility handbook, which should be kept up to date in this regard, to enable periodic comparisons to be made and trends to be detected.

NOTE 1 Matters relating to the performance management of services delivered as part of the organization's facilities management are not covered by this British Standard.

NOTE 2 See BS 8572, BS EN 15221-2 and BS EN 15521-3 for further information.

5.5.12 Corporate social responsibility

The organization's corporate social responsibility policy statement should be included in the facility handbook, reviewed periodically and updated as necessary to ensure that it remains current. Wherever practicable, it should be accompanied by evidence of any practices or actions (see **5.5.10**) to support and enhance the assertions made within the policy statement. The extent to which detailed information should be included should be determined by the organization.

5.5.13 Transportation

Provisions for accommodating vehicles and bicycles should be incorporated in the facility handbook. Details should include the number and location of car parking bays for occupants and visitors and the location of bicycle racks. Where car parking provision falls outside the curtilage of the facility, provisions should be likewise incorporated. Account should be taken of any information that the organization is required, or decides, to obtain from vehicle users as a condition of parking, for example proof of valid insurance cover. Information on public transport connections should be incorporated in the facility handbook.

5.5.14 Space utilization

The organization should be aware of its space utilization at all times and record details in the facility handbook. In addition to providing valuable information about current efficiencies in the use of space, the organization should be able to measure and forecast the costs of servicing its space, including those relating to energy, as well as to demonstrate the efficacy of energy-saving practices (see **5.4.10**). When adopting a policy of sustainable space provision, the organization should consider the options for the most effective use of space in future years and incorporate that information in summary form within the facility handbook.

5.5.15 Benchmarking

Effective and cost efficient facilities management relies on the information and data available within the organization regarding the cost of services and utilities, including energy use. Internal comparisons of performance are a starting point, but to be more effective the organization should consider comparing the cost of providing its facilities and the services they require with those of facilities in the ownership and/or management of other bodies. The benchmarking of costs and other performance-related data should be implemented as a routine practice undertaken at intervals that allow the organization to determine where it stands and to reveal where action is necessary to correct and/or improve performance. Significant amounts of quantitative and associated qualitative data may be collected and analysed on a regular basis to help with this requirement. Targets for improvement should be recorded in the facility handbook to enable comparison to be drawn with actual performance in general and the cost of providing services and the consumption of energy in particular.

NOTE See BS EN 15221-7 for further details on benchmarking.

5.5.16 Change programmes

Facilities management deals with routine changes facing the organization in terms of the space it uses, the way in which space is used and the services that are required to support activities in that space. Details of changes to the way space is used and the services that are required should be recorded in the facility handbook. In cases where changes involve adaptation or extension to the existing structure or fabric of the facility, details should be used to update the as-built information (see **5.4.2**), plans for maintenance (see **5.4.14**) and other work that might be affected.

Changes that are required to satisfy commercial requirements should be recorded.

NOTE Changes might also be required to accommodate previously identified legislation and it is best practice also to record these.

5.5.17 Business continuity management

The organization should establish the extent of information and data required to support continuity of the core business in the event of an incident or other emergency affecting normal business operations, in particular details of critical activities. Similar consideration should be given to the information and data required to maintain or re-establish support services of the kind covered by facilities management in the event that the organization's core businesses are temporarily relocated. Contingency plans devised by the organization to cover the above eventualities should be incorporated in the facility handbook.

NOTE Further guidance on business continuity is provided in BS 25999-1 and BS 25999-2.

Annex A (informative) Example RASCI chart

An example of a RASCI chart is given in Table A.1.

Table A.1 **Typical tasks and allocated roles**

Task	CEO	COO	CFO	CIO	FM
Prepare information management strategy	Consult	Accountable	Support	Responsible	Support
Manage facility-related contract information	Accountable	Consult	Consult	Support	Responsible
Prepare operating procedures	Inform	Accountable	Inform	Consult	Responsible
Undertake post-occupancy evaluations	Consult	Accountable	Inform	Inform	Responsible
Manage asset register	Inform	Accountable	Consult	Consult	Responsible

NOTE CEO = Chief Executive Officer; COO = Chief Operating Officer; CFO = Chief Finance Officer; CIO = Chief Information Officer; FM = Facility Manager

Annex B (informative)

Typical building manual contents

An example of typical building manual contents is as follows.

1. BUILDING INFORMATION
   - 1.1 Building construction details
   - 1.2 Basic building information
   - 1.3 Legal ownership information
   - 1.4 Multi-tenant occupier list
   - 1.5 Building activities
   - 1.6 Building measurements
   - 1.7 Building plans/layout
   - 1.8 Building envelope information
   - 1.9 Mechanical building services
   - 1.10 Public health services
   - 1.11 Electrical and control systems information
   - 1.12 Specialist building services
   - 1.13 Maintenance strategy and history
   - 1.14 Maintenance history log
   - 1.15 Statutory inspections
   - 1.16 Written scheme of examination for pressure systems
2. EMERGENCY INFORMATION
   - 2.1 Building criticality rating
   - 2.2 Emergency procedure for a water leak
   - 2.3 Utility isolation
3. BUILDING UTILITY AND ENVIRONMENTAL INFORMATION
   - 3.1 Energy and environmental policies
   - 3.2 Utility provided details
   - 3.3 Annual building energy consumption
   - 3.4 Energy conservation
   - 3.5 Refrigerants and F gases
4. WATER MANAGEMENT
   - 4.1 Water strategies
   - 4.2 Leak detection
5. MATERIALS AND WASTE MANAGEMENT
6. TRANSPORT FACILITIES
7. REFIT AND REARRANGEMENT CONSIDERATIONS
   - 7.1 Key design and operational issues
   - 7.2 Key design information
   - 7.3 Handover information
   - 7.4 Major changes to building services

8. REPORTING PROVISION
    - 8.1 Building contacts
    - 8.2 Operating hours
    - 8.3 Health and safety issues
    - 8.4 Standard operating procedures (SOP)
9. TRAINING
    - 9.1 Compulsory training
    - 9.2 Additional training

NOTE This example is taken from Building manuals and building user guides, BG 26/2001 [7] and is reproduced here by kind permission of BSRIA, Old Bracknell Lane West, Bracknell, Berkshire, RG12 7AH, UK.

Annex C (informative) Typical building user guide contents

An example of typical building user guide is as follows.

1. BUILDING INFORMATION
    - 1.1. General
    - 1.2. Building environment
    - 1.3. Lifts and escalators
    - 1.4. Security system
2. EMERGENCY INFORMATION
    - 2.1 Fire response and alarm system
    - 2.2 Fire evacuation procedure
    - 2.3 First aid
3. BUILDING UTILITY AND ENVIRONMENTAL INFORMATION
    - 3.1 Overview of company policy and practices
    - 3.2 Energy and environmental strategy
    - 3.3 Annual building energy consumption
    - 3.4 Energy conservation
    - 3.5 Mechanical
    - 3.6 Electrical
    - 3.7 Communications
4. WATER MANAGEMENT
    - 4.1 Water strategy
    - 4.2 Domestic water
5. MATERIALS AND WASTE MANAGEMENT
    - 5.1 Materials purchasing policy
    - 5.2 Waste management policy
6. TRANSPORT FACILITIES
    - 6.1 Transport
    - 6.2 Parking

7. REFIT AND REARRANGEMENT CONSIDERATIONS
    7.1 Re-fit building/building sections
    7.2 Re-arrangement/addition of furniture
8. REPORTING PROVISION
    8.1 Reporting procedures
    8.2 Responsible parties
9. TRAINING
    9.1 Compulsory training
    9.2 Additional training

NOTE This example is taken from Building manuals and building user guides BG 26/2001 [7] and is reproduced here by kind permission of BSRIA, Old Bracknell Lane West, Bracknell, Berkshire, RG12 7AH, UK.

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BS EN 15221-5, *Facility management – Part 5: Guidance on facility management processes*

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Further reading

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