

The Builders Guide to Operations and Maintenance Manuals

Prepared by



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Are O&M Manuals Important?

As buildings become more technologically advanced, owners and end users are demanding from Contractors a much higher level of detail and improved quality of information to ensure they get the best operating and maintenance outcomes from their new facility. A US report showed approx 65 to 85% of the cost of a new building occurred after handover¹.

O&M Manuals are also integral to meeting legal obligations for health and safety, essential services, duty of care and the like. The advent of “Green Buildings” or ESD (Environmentally Sustainable Designs) has also raised the stakes as commercial leases can be linked to maintaining the Green Rating.

When you realise the expensive part is not building but operating and maintaining the new assets you can understand the frustration of Owners and Facility Managers when O&M Manuals are not complete, poorly presented, or inadequate for the task.

This booklet seeks to provide some guidance to contractors, project managers and clients on the format and content of O&M manuals that add value and is a “no surprises” approach to avoid disputes after handover.

About WebFM

WebFM’s OMTrak is an award winning Internet based system that allows builders, contractors and owners to develop their operations and maintenance manuals online to save time and money.

The system will produce complete electronic O&M Manuals and hard copies as needed.

The benefits include you can progressively load data, have it checked before completion and the Facility Manager is produced with a complete asset schedule for ongoing asset management.

Contact Details

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¹ Eric Jackson Atlantic Division Naval Facilities Engineering Command 2000 - US Federal Facilities Council Technical Report No. 140

Getting Started?

O&M manuals are usually the last thing considered in the delivery of new works. This is usually driven by the contract and the culture in the construction industry.

The best time to start O&M manuals is around the commencement of the works or when all major service sub contracts are let. This allows contractors, project managers and the client the opportunity to establish the requirements for the O&M manuals up front. Progressive development of the manuals over the duration of the works tends to avoid the usual last minute panic to meet the Contract deadlines and makes for a happy client.

Who should prepare the Manuals?

Often tasking the co-ordination of O&M Manuals is left to a junior staff member. Yet O&M Manuals are important legal documents and will have a lasting impact on the Owner. A senior manager must be tasked with the responsibility to guide the development of the manuals and if needed deal with the more difficult suppliers who see O&M Manuals as a post handover task. Remember your project payments and reduction in security may be at risk here plus the Owner or Facility Manager may not be too impressed with poor levels of documentation.

What are the roles in preparing and finalising the Manuals?

There are three prime roles in the development of O&M Manuals. They are:

- **Contractor** – who creates the information in the Manuals
- **Quality Assurance** – tasked with checking the data to ensure it meets the contract, specifications and legal requirements
- **Client** – the representative who accepts the manuals as finalised

You will need to assign these roles to the projects' sub-contractors, designers, project managers and client representatives. In WebFM the process is pre-developed in the QA section and each role is assigned to specific people and each can record comments or actions required to ensure the Manuals are correct and finalised.

What table of contents should I use?

The following table of contents should be common to all O&M Manuals and is based on AS1388² and Industry Best Practice.

Introduction and scope	This is a basic introduction about the project, the builder, and the scope of work documented in the manual.
Assets	Record information describing items of equipment, assets, or elements of the work.
Maintenance	Documents the maintenance schedules and tasks required to maintain a piece of equipment/assets and hence prevent breakdown and / or meet compliance and manufacturer requirements.
Operations	This section should be used to record relevant information on the Operations of the system and or assets. It should also include important safety instructions, special tools, cleaning and operating instructions and trouble shooting to assist in solving problems to prevent expensive call outs.
Warranties and certificates	Record specific warranty and certificate reference information. Important test results and performance criteria relating to commissioning and operations should also be included
Spare parts	Record any relevant information on the Spare Parts data for the assets provided as part of the contract. It may also include information on spare parts suppliers.
Help and contact	This section should be used to record information to allow the Client to call for expert assistance in relation to the assets included in the project. This would include the main contractors, sub-contractors and suppliers.
Drawings and references	This section allows you to attach/bind and or upload information like as-built plans, copies of specifications, complete product manuals and other documents relevant to the works and the O&M Manual.

Are there any statutory requirements?

In Australia, Federal and State Governments have some specific Acts and / or Regulations which impact upon the content of O&M manuals. In general the relevant areas are:

- Public Health relating to A/C Systems, Legionella control etc
- Environmental, Planning and Building Regulations relating to Essential Services and Fire Systems
- Industrial Regulations relating to Occupational Health and Safety and Plant Licences

Often these regulations can refer to one or more Australian Standards and Contractors must become familiar with the requirements and local conditions.

The following attachments show some of the statutory requirements relevant to O&M Manuals:

- Attachment 1 – Regulatory approaches Legionella
- Attachment 2 - Statutory law obligation in relation to compliance with AS 1851 – 2005
- Attachment 3 – National Occupational Health and Safety

About Australian Standards and O&M Manuals?

There are thousands of Australian Standards and unfortunately they do not have a convenient cross reference on what is required in O&M Manuals.

You will need to ensure your suppliers have provided the correct information in accord with the relevant standard for their products. As mentioned before some of these Standards have the effect of law and if not followed could expose you and your firm to considerable liability.

Some of the relevant Australian Standards are shown in attachments 1 and 2.

Are there any contractual requirements?

Most contracts and specifications have some requirements for the format and content of O&M manuals. Also contracts can have financial penalties or milestones linked to timely delivery of O&M Manuals. These should be checked at the commencement of the contract to ensure that the requirements are met.

Are there any ESD requirements?

Most new projects incorporate some level of environmentally sustainable design (ESD) such as water recycling, heating, shading and cooling systems and integrated energy management.

Documentation of the green features and operation should be included in the O&M manual to allow the Owner to meet the annual recertification requirements. In addition to the O&M Manuals a User Guide is promoted by the Green Building Council of Australia³ to assist users and tenants covering:

- Energy and Environmental Strategies

² AS 1388:1994 Guidelines for technical information for building and construction products (Note no Standard exists for O&M Manuals)

³ GBCA sect Man-5 of the Office design v2 of the technical manual

- Monitoring and Targets
- Building Services
- Transport Facilities
- Materials and Waste Policy
- Expansion or re-fit considerations
- References and Further information

How many Manuals are needed?

The following is a typical set of “trade” package O&M Manuals. They are:

- Electrical
- Hydraulics
- Mechanical
- Fire Systems
- Fabric and Finishes
- FF&E (Furniture, Fixtures & Equipment)
- Lifts and Escalators
- Security and Communications
- Structure
- Civil Works
- Landscaping
- Other (Medical Gases, Specialist Plant etc)

Depending on the “Trade” packages some Contractors may have more than one manual to prepare. For example the Electrician may cover electrical reticulation, lighting plus electrical fire systems (detectors) and security and communications. In this example the Electrician would have 3 O&M Manuals to prepare. Also the Plumber can have both normal hydraulics and “wet” fire systems Manuals.

The above list is not definitive and each project set of Manuals should reflect the works, any major milestones or stages and the appropriate trade break-up.

The key point here is do not assume you are right, consult with the Designers, Facility Manager and Client to confirm the most suitable list and number of manuals.

What As-Built documentation is needed?

As-Built documentation can include plans, diagrams, special details and the like. The objective here is to provide the Owner with information that can be used later. Eg the sewer diagrams and plans are important for location and depth of services. Electrical wiring plans and diagrams help in future works or maintenance of the system.

The format of As-Built documents should be electronic to reduce paper consumption and storage needs. All as-built documents should be clearly labelled and marked up as “as-built” or “as constructed” and should not be “for construction” or other terms. The final format of As-built plans etc should be in accord with the Contract, Specification and or Client directions. This will also cover whether documents are in CAD format or PDF.

A CAD format allows the drawings to be re-used for other design work and need careful specification on the approach to “layering” the designs and “binding” the layers into readable plans. If CAD is required confirm the specific requirements with the Project Manager and or Owner.

A PDF format, however is usually more universally accessible especially for Facility Maintenance Staff who are not always CAD literate. If there is doubt on the correct format then include both CAD files for later use on re-designs and PDF for day to day use by facility staff. Also the PDF is not alterable and in effect acts as the final reference drawing.

What format should I use for the Manuals?

Most Facility Managers and Owners would prefer electronic O&M Manuals to Hard Copy folders. Electronic formats like Word, PDF and the like allow for PC or networked storage and can be accessed relatively easily. Hard Copy Manuals require storage and strict controls on borrowing to prevent loss and not many Facility Managers make good Librarians. Also as most of the information used to develop O&M Manuals is now electronic (Word, Spreadsheet, PDF, Web download, etc) it makes sense to create the Manuals in electronic format.

Is there a “Green” Approach to O&M Manuals?

Electronic O&M Manuals are the “green” approach. With major projects requiring up to 6 copies of O&M Manuals first in draft form for review and checking and then again in final versions it can consume a large amount of paper, in fact an estimate on one project was that electronic O&M Manuals saved approximately ½ tonne of paper or about 9-11 trees.

What electronic formats should I use?

Electronic O&M Manuals can take a number of forms. The following is a short guide on the methods available.

Method	Disadvantages	Advantages
Compile all the various PDF, CAD, Word and scanned image files into one CD or into separate Trade Package CDs. A heading or table of contents document is required to improve usability and must be included in the CD	<ul style="list-style-type: none"> No pre-checking of Manual before issue Risk of inconsistent format or missing documents Multiple CDs to Manage No structured asset data for re-use 	<ul style="list-style-type: none"> Simple approach
Develop and issue a standard template (eg Word) for use by each Trade to prepare their O&M Manuals with added files like as-built documents included in the CD.	<ul style="list-style-type: none"> No pre-checking of Manual before issue Must develop template Trades have different Versions of Word No structured asset data for re-use 	<ul style="list-style-type: none"> Low tech approach Standard format adopted
Take the Hard Copy Manual and have it scanned and converted to PDF images and transfer to a CD	<ul style="list-style-type: none"> Requires Hard copies and printing No pre-checking of Manual before issue No search function possible on CD data No structured asset data for re-use Cost of document scanning 	<ul style="list-style-type: none"> Nil
Use the WebFM on-line O&M system to create standardised Manuals with all required attached files in fully electronic format	<ul style="list-style-type: none"> Has a fee cost 	<ul style="list-style-type: none"> Can be checked on-line anytime Full electronic format in PDF and structured Database for re-use in asset systems

General Presentation: CD or DVD media should be in a suitable CD case with both CD and case labelled using a proprietary brand Disk Labeller showing the same project details shown later for Hard Copy Manuals.

The WebFM O&M System is a complete package. It is web based and requires only an internet connection and standard browser. It is pre-formatted to meet AS1388, will allow on-line checking throughout the project, provides a single whole of Project PDF document with all attached files and is a structured asset database as well.

Hard Copy Manuals?

When using the WebFM system the formatting of text, line spacing etc is done for you. All you need to do is use the PDF converter and print the downloaded documents from your PC.

Check your specification first to confirm if there are other requirements for hard copy format. In the absence of a specific requirement the following is based generally on AS1388 as a guide to the format and presentation of hard copy manuals:

Generally

- Generally the O&M Manuals must be in a readable and easily accessible format and presentation.
- The use of illustrations and inclusion of relevant reference material is encouraged to ensure the user/reader is able to adequately understand the requirements for safe and proper operation and maintenance of the works.
- The language style used in the document should be appropriate to the user or intended audience

Paper Sizes and Quality

- All documents should preferably be produced in the international A4 paper size (210 mm × 297 mm). As-built documents and other larger material should preferably be A3 paper size ((297 mm x 420 mm). If other paper sizes are used, they should comply with AS 1612.
- Printing material – Board/Paper and ink should be appropriate for the intended use, e.g. strong enough to stand up to heavy usage and sufficiently opaque to avoid ‘showthrough’. As a guide 80GSM white copy paper is adequate for A4 and A3 documents.

Binding in Folders

- Bind or contain each hard copy of the operations and maintenance manuals in white, durable, four ring hard cover binders in accordance with AS P5, not greater than 75 mm thick and with the Project, Facility, Manual Name (Trade, Service or System Name eg Hydraulics Services) permanently marked on the spine and outside front cover with clear protection on the covers. Use of clear “Insert” type folders is permitted. Limit filling of binders to 60% of capacity
- Any A3 size paper documents are to be folded to A4 size and located in the Drawings and Reference Section of the Manual.
- Manufacturers Manuals, booklets, pamphlets and other relevant reference material should be bound into the Drawings and Reference Section either within a suitable A4 clear plastic protection sheaf or direct hole punched and bound in the folder.
- As-built documentation and plans which are not suitable for reduction to A3 size must be neatly folded to A4 size and bound into the Folder either in a suitable A4 clear plastic protection sheaf or direct hole punched with reinforced hole protectors and bound in the folder such that it can be infolded and re-folded easily
- CD’s, DVD’s and other relevant data media must be bound into the Manual in a suitable clear plastic holder with each CD/Media clearly labelled with the Project Title, Location, Manual Name and Short description of the contents. Also any instructions required to operate the media must be either included in the plastic protector or bound into the Manual in front of the media.

Presentation (both Hard Copy and Electronic Manuals)

- Front Cover will contain the following;
 - **Project Title** – the name commonly used to describe the works or project, eg Stage 2 Redevelopment etc
 - **The Location Name** – the name of the facility on which the works are undertaken (where a project spans a number of locations separate O&M Manuals are to be provided for each)
 - **The Manual Name** – the title of the trade, service or systems covered by this Manual, eg Electrical Fire Services
 - **The Author** – the author or organisation responsible for creation of the Manual eg Builder and or sub-contractor
 - **The date** of publication
 - Other Information – other relevant information that will assist the reader to use the Manual and may also include appropriate designs, logos and the like such that the key information above is still clearly visible and readable
- Folder/Manual Spine Titles can be shortened or abbreviated to identify the Project Title, Location and Manual Name. Other information can be included subject to available space and so as to not make the key information unreadable from a distance.
- Folder/Manual Spine layout - printing should commence from the top and be readable downwards when the document is standing up and upright, or be readable left to right when the document is lying face-up. On wide spines printing may be readable left to right when the document is standing up. Spines should be free of printed information on the lowermost 35 mm when upright to allow clear space for user referencing information, e.g. library indexing systems.
- Typefaces or Fonts for text should be clear and legible. The requirements of legibility, photocopying, facsimile (fax) transmission, microfiche production and optical character reading should be considered in the choice of typeface, inter-word spacing, line spacing and line length or column width. Where coloured inks are used, products should be selected which do not reduce legibility when photocopied or transmitted by fax
- Print text on A4 pages on one side only in a clear typeface with a 35 mm margin for binding.
- Section Identification/Dividers - each section should be indicated by means such as coloured divider leaves, cards, section tabs, or edge markings on pages. Edge markings should be not less than 3 mm wide.

- Contents List should appear on the first or second page of each O&M Manual showing the sections contained in that Folder in matching sequential order to the section dividers/tabs. Page numbers and other reference tags may be shown however it is accepted that with a number of added documents like Manufacturers booklets complete page numbering is not always achievable.
- Margins - To allow for punching and binding, margins on documents should not be less than 20 mm wide.
- Illustrations, Technical Drawings, Tables And Charts - All illustrations, technical drawings, tables and charts should carry descriptive titles explaining the name of the document and a short description (eg Title - As-built Plans Sewer works No 123/A. Description - Shows the location, off-sets, IL depth and layouts for sewer works to Building A100). Instructions and notes referring to such drawings, tables and charts should be positioned in such a way that they are fully visible in relation to these drawings, tables and charts. Illustrations should be clear and explanatory.

If you use the WebFM system all the above formatting is automatically preset

What Should each Trade Include in the Manuals?

The following checklist provides a basic guide as to what should be included in each Manual.

Heading	Checklist Item	Check
Introduction and scope	Is the description adequate to describe the complete scope of works undertaken?	
	Is there a description of items excluded from the contract scope?	
	Does the description and scope include all contract variations?	
Assets	Is the schedule of assets or equipment adequate to allow maintenance staff to identify, locate and service the plant?	
	Are the schedules complete including Make, Model, Serial numbers, Expected life, Warranty periods, Cost, and Other information, ie performance requirements?	
	Is there sufficient information to meet any Statutory Requirements for the assets, systems and or plant?	
	Has the Owner or Facility Manager been consulted to ensure the level of detail provided meets their needs?	
Maintenance	Are all statutory maintenance schedules included with reference to the appropriate Australian Standards and or Legislation?	
	Are all manufactures recommended maintenance routines included and referenced accordingly?	
	Are the maintenance schedules linked to the assets/equipment schedules to ensure all items are covered in the schedule?	
Operations	Are Operating instructions, minimum skills/knowledge required and procedures clearly described and adequate to allow users to properly and safely access, clean, operate and repair the assets/systems or plant?	
	Are instructions relating to the operation of special "green" systems included, ie multiple and or inter-linked systems, internal thermostatically controlled external sun shades, grey and black water recycling systems?	
	Are there clear and simple instructions for routine and emergency fault and trouble shooting that can be undertaken by the Owner or Facility Manager to minimise failure, injury and or costly callouts?	
Warranty and certificates	Are all supplier warranties that exceed the Builders Contract warranty period included?	
	Are all statutory certificates included, ie Fire Systems, Supply Authorities, Plant Registrations?	
	Are copies of all commissioning test results included in this section?	
Spare Parts	Does the Spare Parts section include a list of all spares provided under the contract and their storage location?	
	Is the list of spare parts adequate to allow maintenance staff to order replacements for routine tasks?	
	Does the Spare Parts section include a list of all major suppliers contact details for the relevant equipment items?	
Help and contact	Does the Help and Contact list include the prime contractor, main sub-contractor and all specialist contractors for the works?	
	Are all the contact details provided including, firm name, key contact, address, phone/fax, email and web site?	
Drawings and reference	Do all "as-built" plans accurately reflect the works and show sufficient detail to identify and locate all concealed services, all installed items and their configuration	

Heading	Checklist Item	Check
	Are all as-built drawings properly labelled, marked up as "as-built" and include all required dimensions and details?	
	Are drawings loaded and formatted as PDF and or CAD as required under the contract?	
	Are copies of relevant manufacturers manuals included in this section?	
	Are copies of any schedules of finishes, doors, windows, locks, furniture, fitments, and other elements included in the appropriate manual?	

Attachment 1 – Regulatory approaches Legionella

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<http://enhealth.nphp.gov.au/index.htm>

Appendix 1 - Regulatory approaches by Australian States and Territories to the prevention of legionellosis
 Regulatory approaches Legionella 120601.doc 1

Jurisdiction	Acts	Regulations	Standards, codes or guidelines	Responsible State or Territory agency	Enforcement agencies
Queensland	<i>Workplace Health & Safety Act 1995</i>	<i>Workplace Health & Safety Regulations (1997)</i>	<i>Plant Advisory Standard Supplement No.2 (2000) Legionella Control in Airconditioning Units & Cooling Towers</i>	<i>Department of Industrial Relations</i>	<i>DIR-Division of Workplace Health & Safety</i>
New South Wales	<i>Public Health Act 1991</i>	<i>Public Health (Microbial Control) Regulation 2000</i>	<i>Code of Practice for the Control of Legionnaires' Disease (under review)</i> <i>Code of Practice Thermostatic mixing valves in Health Care Buildings (under review) AS/NZS 3666 parts 1,2 & 3</i>	<i>NSW Health Department and Local government</i>	<i>NSW Health Department and Local government</i>
Victoria	<i>Health Act 1958</i>	<i>Health (Legionella) Regulations 2001</i>	<i>Guidelines for the control of Legionnaires' disease</i>	<i>Department of Human Services</i>	<i>Department of Human Services</i>
	<i>Building Act 1993, as amended by the Building (Legionella) Act 2000</i>	<i>Building Regulations 1994</i>	<i>Building Code of Aust F4.5 & 11.2 and AS/NZS 3666</i>	<i>Building Control Commission</i>	<i>Authorised officers</i>
		<i>Building (Legionella Risk Management) Regulations 2001</i>	<i>A guide for developing Risk Management Plans for Cooling Tower Systems Managing the Risk of Legionnaires' Disease: Supplementary Notes for Hospitals</i>	<i>Department of Human Services</i>	<i>Department of Human Services</i>
Victoria (continued)	<i>Building Act 1993, as amended by the Building (Legionella) Act 2000 (continued)</i>	<i>Building (Cooling Towers Register) Regulations 2001</i>	<i>Guide to Registering a Cooling Tower System</i>	<i>Building Control Commission</i>	<i>Department of Human Services</i>
		<i>Plumbing (Cooling Towers) Regulations 2001</i>	<i>AS/NZS 3666 (Mechanical services work only) A Code of Good Practice for the Servicing, Maintenance & Recommissioning of Mechanical Services Plant & Equipment Technical Solutions 6: Hot water plumbing Technical Solutions – 7: Mechanical Services</i>	<i>Plumbing Industry Commission</i>	<i>Plumbing Industry Commission</i>
Tasmania	<i>Public Health Act (1997)</i>		<i>Guidelines for Legionella (2001)</i>	<i>Department of Health and Human Services</i>	<i>Department of Health and Human Services</i>
South Australia	<i>Public and Environmental Health Act (1987)</i>	<i>General provisions of Act. Specific Regulations proposed</i>	<i>AS/NZS 3666 and HB-32 as base reference documents. AS/NZS 3500.4.2 by reference. Proposed "Standard for the Control of Legionella in Manufactured Water System in South Australia"</i>	<i>Department of Human Services (DHS)</i>	<i>Local Government and DHS in unincorporated areas.</i>
South Australia (continued)	<i>Development Act (1993)</i>	<i>Building Code of Australia</i>	<i>AS/NZS 3500.4.2</i>	<i>Local Government Department for Transport, Urban Planning and the Arts (DeTUPA)</i>	<i>Local Government, (DeTUPA in unincorporated areas).</i>

Jurisdiction	Acts	Regulations	Standards, codes or guidelines	Responsible State or Territory agency	Enforcement agencies
Western Australia	<i>Health Act 1911</i>	<i>Health (Air Handling and Water Systems) Regulations 1994</i>	<i>AS 3666 (1989)</i>	<i>Health Department of WA</i>	<i>Local Government</i>
Australian Capital Territory	<i>Public Health Act 1997</i>	<i>ACT Cooling Towers and Warm Water Storage Systems Code of Practice 2000 (Code of Practice)</i>	<i>ACT Cooling Towers and Warm Water Storage Systems Code of Practice 2000 (Code of Practice)</i>	<i>ACT Department of Health, Housing and Community Care</i>	<i>ACT Department of Health, Housing and Community Care</i>
Northern Territory	<i>Public Health Act 1952</i> <i>Work Health Act 1986</i>	<i>Building Regulations 1993</i>	<i>Building Code of Aust F4.5 & 11.2, 1668.2 & AS/NZS 3666.1 Guide on Legionnaire's Disease Guidance for the Control of Legionella - NEHF</i>	<i>Department of Lands Planning & Environment</i> <i>Department of Industries & Business</i> <i>Territory Health Services</i>	<i>Department of Lands Planning & Environment</i> <i>Department of Industries & Business Territory Health Services</i>

Attachment 2 - Statutory law obligation in relation to compliance with AS 1851 – 2005

Statutory law obligation in relation to compliance with AS 1851 – 2005 (Fire Protection Association Australia White Paper 2005)

State	Legislation	Controlled By	Essential Service name
Australian Capital Territory	Building Act 2004 Building Regulations 2004	ACT Fire Brigade	Active Fire Safety Systems
New South Wales	Environmental Planning and Assessment Act 1979 Environmental Planning and Assessment Regulations 2000	Department of Planning	Essential Fire Safety Measures
Victoria	Building Act 1993 Building (Interim) Regulations 2005	Building Commission	Essential Safety Measures
Queensland	Fire and Rescue Service Act 1990 Fire and Rescue Service Regulations 1991	Queensland Fire and Rescue Service	Fire Safety Installations
Tasmania	Building Act 2000 Building Regulations 2004	Department of Infrastructure, Energy and Resources	Essential Safety and Health Features / Measures
South Australia	Development Act 1993 Development Regulations 1993	Planning SA	Essential Safety Provisions
Western Australia	No specific essential service provisions other than those prescribed in BCA. General Building Control matters are covered under Local Government (Miscellaneous Provisions) Act 1960 and Building Regulations 1989	Building Codes and Regulations Branch of Department of Housing and Works	No defined term
Northern Territory	Building Act Building Regulations	Department of Infrastructure Building Advisory Services Branch	Safety Measures

Attachment 3 – National Occupational Health and Safety Information

National Occupational Health and Safety Commission
NATIONAL STANDARD FOR PLANT [NOHSC:1010(1994)]

This Standard has been adopted nationally and provides a sound basis for O&M Manual's information for plant and equipment in general. The standard adopts a risk assessment approach and is not prescriptive on task or frequency. The following are extracts from the Standard.

Refer to the complete Standard and the relevant Commonwealth or State Regulations for full documentation and requirements.

PART 2 – DUTIES

Section - Provision of Information

Clause 15

15. A manufacturer must ensure that the supplier is provided with -

- (a) information provided by the designer relating to -
 - (i) the purpose for which the plant is designed,
 - (ii) testing or inspections to be carried out on the plant,
 - (iii) installation, commissioning, operation, maintenance, cleaning, transport, storage and, where plant is capable of being dismantled, dismantling of the plant,
 - (iv) systems of work necessary for the safe use of plant,
 - (v) knowledge, training or skill necessary for persons undertaking inspection and testing of the plant,
 - (vi) emergency procedures; and
- (b) any document relating to testing.

The following is an extract from Schedule 1 of the Standard defining items of plant where the design must be registered and items where the plant must be registered.

Note the above clause is not limited to those plant items in schedule 1 as the Standard adopts a risk assessment approach which could be applied to any plant item irrespective of its listing in the schedule.

SCHEDULE 1
PLANT DESIGNS AND ITEMS OF PLANT REQUIRING REGISTRATION

1. Plant Requiring Registration of Design

- pressure equipment, other than pressure piping, and categorised as hazard level A, B, C or D according to the criteria identified in AS 3920 Part 1, Pressure Equipment Manufacture - Assurance of Product Quality;
- gas cylinders covered by AS 2030;
- tower cranes;¹
- lifts;²
- building maintenance units;
- hoists, with a platform movement in excess of 2.4 metres, designed to lift people;¹
- work boxes suspended from cranes;
- amusement structures covered by AS 3533, with the exception of class ¹ structures;
- prefabricated scaffolding;
- boom-type elevating work platforms;
- gantry cranes with a safe working load greater than 5 tonnes or bridge cranes with a safe working load of 10 tonnes, and any gantry crane or bridge crane which is designed to handle molten metal or dangerous goods; Note: dangerous goods means dangerous goods as defined in the ADG Code;
- vehicle hoists;¹
- mast climbing work platforms;¹
- mobile cranes with a safe working load greater than 10 tonnes;¹

¹For the purposes of registration, cranes and hoists in Schedule 1 exclude those that are manually powered, elevating work platforms and tow trucks.

² Registration of lifts includes escalators and moving walkways

SCHEDULE 1

PLANT DESIGNS AND ITEMS OF PLANT REQUIRING REGISTRATION (continued)

2. Items of Plant Requiring Registration

- boilers categorised as hazard level A, B or C according to the criteria identified in AS 3920 Part 1, Pressure Equipment Manufacture - Assurance of Product Quality;
- pressure vessels categorised as hazard level A, B or C according to the criteria identified in AS 3920 Part 1, with the exception of gas cylinders covered by AS 2030, LP gas fuel vessels for automotive use covered by AS 3509 and serial produced vessels covered by AS 2971;
- tower cranes;¹
- lifts;²
- building maintenance units;
- amusement structures covered by AS 3533, with the exception of class 1 structures;
- truck-mounted concrete placing units with booms;¹
- mobile cranes with a safe working load greater than 10 tonnes;¹

¹ For the purposes of registration, cranes and hoists in Schedule 1 exclude those that are manually powered.

² Registration of lifts includes escalators and moving walkways

State Regulations (Source Australian Safety and Compensation Council last updated: 11/08/2006)

Contact the following State Agencies for more detailed information on requirements for O&M Manuals for Plant.

State	Agency	Web site
Australian Capital Territory	ACT WorkCover (02) 6205 0200	www.workcover.act.gov.au
New South Wales	WorkCover NSW 13 10 50	www.workcover.nsw.gov.au
Northern Territory	NT WorkSafe 1800 019 115	www.nt.gov.au/deet/worksafe
Queensland	Department of Industrial Relations QLD 1300 369 915	www.dir.qld.gov.au/workplace/index.htm
South Australia	WorkCover SA 13 18 55	www.workcover.com
Tasmania	WorkCover Tasmania 1300 366 322	www.workcover.tas.gov.au
Victoria	Victorian WorkCover Authority 1800 136 089	www.workcover.vic.gov.au
Western Australia	WorkSafe WA 1300 307 877	www.worksafe.wa.gov.au

Attachment 4 – Essential Fire Safety Measures

The following table lists the essential fire safety measures as listed in the NSW EP&A Regulation 2000. This list is similar in each state however you should refer to the state specific legislation as documented in Attachment 2.

<ul style="list-style-type: none"> • Access Panels, doors and hoppers to fire resisting shafts • Automatic Fail-safe devices (electromagnetic devices) • Automatic Fire Detection and Alarm Systems • Automatic Fire Suppression (sprinkler) Systems • Emergency Lifts • Emergency Lighting • Emergency Warning and Intercommunication Systems • Exit Signs • Fire Alarm Communication Link (connected to NSW Fire Brigades via private monitoring service provider) • Fire Blankets • Fire Control Centres and Rooms • Fire Dampers • Fire Doors (and self-closing devices) • Fire Hydrants • Fire Safety and Emergency Evacuation Procedure • Fire Seals protecting openings in fire-resisting components of the building • Fire Shutters • Fire Windows • Hose Reel Systems 	<ul style="list-style-type: none"> • Lightweight Construction (walls, ceilings, column/beam protection) • Mechanical Air Handling Systems • Perimeter vehicle access for emergency vehicles • Paths of travel for stairways, passageways and ramps • Portable Fire Extinguishers • Pressurising Systems • Required Exit Doors (Exit latches) • Safety Curtains in proscenium openings • Smoke and Heat vents • Smoke control systems • Smoke Dampers • Smoke Detectors and Heat Detectors • Smoke Doors • Solid Core Doors (and self closing devices) • Stand-by Power Systems / Emergency Generator Backup • Wall-wetting Sprinkler and Drencher Systems • Warning and Operational Signs
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