

STANDARDS AUSTRALIA

Amendment No. 1
to
AS 1851—2012
Routine service of fire protection systems and equipment

REVISED TEXT

The 2012 edition of AS 1851 is amended as follows; the amendments should be inserted in the appropriate places.

SUMMARY: This Amendment applies to the Preface, Clauses 1.5.4, 1.5.6.2, 1.5.18, 1.7.2, 1.8, 1.9, 1.11.1, 1.11.2, 1.11.3, 1.12, 1.16.5, 2.2.3, 3.2.4, 3.2.5, 3.3, 3.4.2, 3.4.5.1, 4.1, 4.2.3, 4.2.4, 5.2.3, 5.3.1, 6.2.4, 7.2.4, 8.2.1, 8.2.2, 9.2.1, 9.2.2, 9.2.8.1, 10.2.2, 10.2.15.1, 11.2.1, 11.2.2, 12.2.5, 12.2.6, 13.1 and 14.2.4, Tables 1.11(A), 1.16.2, 2.4.2.1, 2.4.2.2, 2.4.2.3, 2.4.2.4, 2.4.3.1, 2.4.3.2, 2.4.3.3, 2.4.3.4, 2.4.4.1, 2.4.4.2, 2.4.4.3, 2.4.4.4, 2.4.5.1, 2.4.5.2, 2.4.5.3, 2.4.5.4, 3.4.1, 3.4.2, 3.4.3, 3.4.5.2, 4.4.1, 4.4.2, 4.4.3, 4.4.4, 5.4.1, 5.4.3, 5.4.4, 6.4.1.2, 6.4.1.3, 6.4.1.4, 6.4.1.5, 6.4.2.3, 6.4.3.1, 6.4.3.2, 6.4.3.3, 6.4.4.1, 7.4.2, 7.4.3, 7.4.4, 7.4.5, 10.1, 10.4.1, 10.4.2, 10.4.3, 12.4.1.4, 13.2.1, 13.4.1.12, 13.4.2.6 and 13.4.2.7, and Appendices C, G and I.

Published on 16 November 2016.

Preface

Add the following after Item (r):

The objectives of Amendment 1 are to address editorial errors and baseline data.

Since its implementation, it became clear that baseline data in AS 1851—2012 had not been interpreted correctly by the fire protection industry. As such, FP-001 has revised this to clarify the intent of the committee.

The definition of baseline data and Clause 1.8 have been updated to reflect that the baseline data required by AS 1851—2012 is only what is required to verify the result of a service activity and only required where such baseline data was required by the approved design.

Appendix C and references to specific baseline data in the service schedules were removed accordingly so that the focus is, as intended, only on what baseline data was required by the approved design.

Clause 1.5.4

Delete text and *replace* with the following:

Data either provided by or derived from the approved design and commissioning thereof, which, when and where provided, would serve as a basis for verification of results of routine servicing.

Clause 1.5.6.2

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Delete text and *replace* with the following:

Missing information or incorrect feature that does not affect the system operation but is required to facilitate ongoing routine service.

NOTE: Examples of non-conformance include missing or incorrect sprinkler block plan as required, missing spare sprinklers, missing sprinkler guards, missing equipment location signs or illegible labels and non-availability of required information required to validate a service activity (see Figure 1.5.6 and Clauses 1.8 and 1.9).

Commentary to Clause 1.5.18

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Delete text and *replace* with the following:

<p>CI.5.18 <i>Where an upgrade or modification has resulted in a change of the performance capability, the system should be appraised against the new approved design.</i></p>

Clause 1.7.2

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In Note 1, *delete* ‘adequate’ and *replace* with ‘required’.

Clause 1.8

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Delete text, including Commentary, and *replace* with the following:

Baseline data may be required to verify the result of a routine service activity required by an applicable service schedule.

Baseline data required by this Standard is limited to that—

- (a) necessary to verify a routine service activity result; and
- (b) prescribed by the regulations, codes or Standards that applied to the approved design.

Irrespective of the availability of baseline data, the routine service activity shall be carried out and the result recorded and reported. Where required baseline data is available, the routine service result shall be verified against it. Where required baseline data is unavailable, its unavailability shall be recorded and reported as a non-conformance.

NOTE: The supply and generation of baseline data is beyond the scope of this Standard.

Clause 1.9

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Delete text and *replace* with the following:

Absent elements or components of a system or systems that were not required as part of an approved design to a Standard that is now superseded are not required to be retrofitted and the related routine service activity shall not be considered a defect or non-conformance if not able to be performed.

Example 1:

A system installed to AS CA16 (superseded) does not require the retrospective fitting of flow test equipment.

Example 2:

An emergency warning system installed to AS 2220.2 (superseded) does not require a speech intelligibility test.

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Commentary to Clause 1.11.1

Delete text and replace with the following:

CI.11.1 If the initial monthly activity is scheduled for the 20th of the month then subsequent monthly activities are required to be carried out within five working days either side of the 20th of the month.

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Commentary to Clause 1.11.2

Delete text and replace with the following:

CI.11.2 If the initial scheduled date is the 27th of the month and the agreed new scheduled date is the 10th of the month (outside tolerance limits) then, by agreement, the date may be brought forward by performing the test on the 27th of the month and again on the 10th of the next month. This may necessitate an additional test. The new scheduled date would now be the 10th of the month, the date that will consequently be used for tolerance purposes.

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Commentary to Clause 1.11.3

Delete text and replace with the following:

CI.11.3 Where this Standard contains a new activity, the scheduled date for that activity may start from commencement of routine service in accordance with this Standard except that, in order to observe the intended frequency interval between activities, new monthly, three-monthly and six-monthly activities should start approximately one month, three months or six months, respectively, after the previous yearly activity.

Where this Standard provides a schedule for an activity that is identical or similar to an activity required by a previous Standard, the frequency interval for that activity may start from the date the frequency interval for the corresponding activity commenced. By way of example, where a five-yearly activity was conducted two years prior to introducing this Standard the five-yearly activity should be conducted in three years time.

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Table 1.11(A)

- 1 Row 3, eighth column 'Ten-yearly', delete '✓'.
- 2 Row 14, third column 'Monthly', delete '✓'.

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Clause 1.12

Delete Note 3.

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Table 1.16.2

Delete Note 1 and replace with the following:

- 1 For adverse operating environments, refer to Clause 10.2.3.

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Clause 1.16.5

Item (c), delete '(See Appendix C.)'.

Clause 2.2.3

Delete text, including list and Commentary, and *replace* with the following:

Baseline data shall be in accordance with Clause 1.8.

Table 2.4.2.1

1 Item No. 1.3, third column, *delete* text and *replace* with the following:

CHECK for damage, legibility and appropriate location of required signage.
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2 Item No. 1.4, third column, second paragraph, *delete* ‘approved design or’.

3 Item No. 1.5, third column, *delete* ‘as indicated on the valve list’ and Notes 1 and 2.

4 Item No. 1.10, third column, action (a), last line, *delete* ‘as indicated on the valve list’.

5 Item No. 1.10, third column, action (a), *delete* Notes and *replace* with the following:

NOTES:
1 Where more than 12 water supply stop valves are distributed throughout a high-rise building, forming part of a combined sprinkler/hydrant system, the actions under actions (a) and (b) may be conducted on a rotating basis.
2 The period between testing of all water supply stop valves should not exceed 3 months.

6 Item No. 1.10, third column, *delete* action (c).

7 Item No. 1.11, third column, action (b), *delete* ‘indicated on the pressure gauge schedule (see Appendix C for guidance)’, and *replace* with ‘required’.

8 Item No. 1.15, third and fourth columns, *delete* text and *replace* with the following:

(a) RECORD reading from each pressure gauge.	Inst kPa Below SV... kPa
(b) VERIFY pressure gauge readings are within the ranges required.	WS1 kPa WS2 kPa

9 Item No. 1.16, third column, action (b), *delete* ‘indicated on the pressure gauge schedule’ and *replace* with ‘required’.

Table 2.4.2.2

1 Item No. 2.3, third column, action (a), *delete* text and *replace* with the following:

(a) Except where owned by the water supply authority, OPERATE (two full turns) all underground key-operated valves and verify they are fully open, secure in the open position (relaxed ¼ turn if appropriate) and are correctly labelled.

NOTE: Where underground key-operated valves are owned by the water supply authority, the owner should arrange for the water supply authority to test the valve(s) to confirm the valve(s) is operational and in the correct position.

2 Item No. 2.3, third column, action (b), *delete* ‘as indicated on the valve list’ and Note.

3 Item No. 2.5, third column, *delete* ‘indicated on the pressure gauge schedule (see Appendix C for guidance)’ and *replace* with ‘required’.

4 Item No. 2.6, third column, action (b), *delete* ‘value recorded on the pressure gauge schedule’ and *replace* with ‘original value recorded’.

Table 2.4.2.3

1 Item No. 3.2, second column, *delete* ‘(high rise)’.

2 Item No. 3.2, third column, action (b), *delete* ‘and pressure gauge schedule’.

3 Item No. 3.3, third column, *delete* ‘and pressure gauge schedule’.

4 Item No. 3.3, third column, *delete* Note 2 and *replace* with the following:

2 Inappropriate settings for pressure-relief valves can result in very large quantities of water flowing to waste. Ensure settings are maintained to have pressures as identified and not higher than allowed by system component rated working pressures.

5 Item No. 3.5, third column, action (b), *delete* ‘detailed on the block plan’.

6 Item No. 3.6, third column, *delete* action (b) and *replace* with the following:

(b) RECORD time(s) to operation of alarm gong(s) and verify that time does not exceed 360 s for AS 2118.1 and 180 s for AS 2118.4 systems.

7 Item No. 3.8, third column, action (b), *delete* ‘in accordance with the building’s systems interface schematic’ and *replace* with ‘as required’.

8 Item No. 3.27, *delete* second and third columns and *replace* with the following:

Survey—Site documentation (where required)	(a) CHECK that block plans and emergency instructions contain the required details.
	(b) CHECK that up-to-date sprinkler plans are available on site.

Table 2.4.2.4

- 1 Item No. 4.11, third column, *delete* ‘indicated on the pressure gauge schedule’.
- 2 *Delete* Item No. 4.18 and *replace* with the following:

4.18	Sprinklers	<p>Subject the sample sprinklers to the following tests conducted by a registered testing authority:</p> <p>(a) Release temperature.</p> <p>(b) Functional test.</p> <p>(c) Leak resistance test—Maximum system design pressure test.</p> <p>REMOVE and TEST a representative sample of sprinklers at the following intervals:</p> <p>(i) Dry pendent sprinklers (representative sample), every 10 years.</p> <p>(ii) All other sprinklers (not less than 14 samples), at 25 years, then every 10 years.</p> <p>NOTE: For all the above sprinklers, using ISO 6182-6, ISO 6182-7 and ISO 6182-12 component Standards, sample sprinklers should be selected from the range of site environmental conditions to which the system(s) is subjected (i.e. office, factory, boiler house environments, etc.).</p> <p>Should one or more sprinklers fail any of the above tests, further sampling and testing should be conducted until the results can be considered truly representative. The extent of sprinkler replacement, if any, will be dependent on the results of testing.</p>
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Table 2.4.3.1

- 1 Item No. 1.1, third column, *delete* text and *replace* with the following:

COMPLETE all monthly wet pipe service activities listed in Table 2.4.2.1 that are applicable to a dry pipe system.

- 2 Item No. 1.2, third column, *delete* ‘indicated on the pressure gauge schedule’ and *replace* with ‘required.’

Table 2.4.3.2

- 1 Item No. 2.1, third column, *delete* text and *replace* with the following:

COMPLETE all monthly service activities listed in Table 2.4.3.1 and all six-monthly wet pipe service activities listed in Table 2.4.2.2 that are applicable to a dry pipe system.

- 2 Item No. 2.2, second column, *delete* ‘Item 1.13 in Table 2.4.1.1’ and *replace* with ‘Item 1.12 in Table 2.4.2.1’.
- 3 Item No. 2.5, third column, action (b), *delete* ‘indicated on the pressure gauge schedule. See Appendix C for guidance’ and *replace* with ‘required’.

Table 2.4.3.3

Item No. 3.1, third column, *delete* text and *replace* with the following:

COMPLETE all monthly and six-monthly service activities listed in Tables 2.4.3.1 and 2.4.3.2 and all yearly wet pipe service activities listed in Table 2.4.2.3 that are applicable to a dry pipe system.

Table 2.4.3.4

- 1 Item No. 4.1, third column, *delete* ‘, as’ before ‘listed’.
- 2 Item No. 4.2, third column, *delete* text and *replace* with the following:

COMPLETE all five-yearly wet pipe service activities listed in Table 2.4.2.4 that are applicable to a dry pipe system.

Table 2.4.4.1

- 1 Item No. 1.1, third column, *delete* text and *replace* with the following:

COMPLETE all monthly wet pipe service activities listed in Table 2.4.2.1 that are applicable to a deluge and water spray system.

- 2 Item No. 1.2, third column, *delete* ‘indicated on the pressure gauge schedule’ and *replace* with ‘required’.
- 3 Item No. 1.3, third column, action (b), *delete* ‘in accordance with the pressure gauge schedule’.
- 4 Item No. 1.9, third column, action (b) and Note, *delete* ‘pre-action’ and *replace* with ‘deluge and water spray’ in each instance.

Table 2.4.4.2

- 1 Item No. 2.1, third column, *delete* text and *replace* with the following:

COMPLETE all monthly service activities listed in Table 2.4.4.1 and all six-monthly wet pipe service activities listed in Table 2.4.2.2 that are applicable to a deluge and water spray system.

- 2 Item No. 2.2, third column, *delete* action (b) and *replace* with the following:

(b) OPERATE each deluge valve by releasing the system via each installed means.

3 Item No. 2.6, *delete* third and fourth columns and *replace* with the following:

(a) RECORD readings from each pressure gauge.	Supervisory pressure kPa
(b) VERIFY pressure gauge readings are within the ranges required.	Diaphragm line kPa Below stop valve kPa

Table 2.4.4.3

- 1 Item No. 3.1, third column, *add* ‘service’ before ‘activities’ and *delete* ‘, as’ before ‘listed’.
- 2 Item No. 3.2, third column, *delete* text and *replace* with the following:

COMPLETE all yearly wet pipe service activities listed in Table 2.4.2.3 that are applicable to a deluge and water spray system.

Table 2.4.4.4

- 1 Item No. 4.1, third column, *add* ‘service’ before ‘activities’ and *delete* ‘, as’ before ‘listed’.
- 2 Item No. 4.2, third column, *delete* text and *replace* with the following:

COMPLETE all five-yearly wet pipe service activities listed in Table 2.4.2.4 that are applicable to a deluge and water spray system.

Table 2.4.5.1

- 1 Item No. 1.1, third column, *delete* text and *replace* with the following:
- 2 Item No. 1.2, third column, *delete* ‘indicated on the pressure gauge schedule’ and *replace* with ‘required’.
- 3 Item No. 1.2, fourth column, *delete* ‘air’.
- 4 Item No. 1.3, third column, action (b), *delete* ‘in accordance with the pressure gauge schedule’.
- 5 Item No. 1.6, third column, action (b), *delete* ‘in accordance with the pressure gauge schedule’.

COMPLETE all monthly wet pipe service activities listed in Table 2.4.2.1 that are applicable to a pre-action system.

Table 2.4.5.2

- 1 Item No. 2.1, third column, *delete* text and *replace* with the following:

COMPLETE all monthly service activities listed in Table 2.4.5.1 and all six-monthly wet pipe service activities listed in Table 2.4.2.2 that are applicable to a pre-action system.

2 Item No. 2.5, *delete* third and fourth columns and *replace* with the following:

(a) RECORD readings from each pressure gauge.	Supervisory pressure kPa
(b) VERIFY pressure gauge readings are within the ranges required.	Diaphragm line kPa Below stop valve kPa

Table 2.4.5.3

- 1 Item No. 3.1, third column, *delete* ‘, as’ before ‘listed’.
- 2 Item No. 3.2, third column, *delete* text and *replace* with the following:

COMPLETE all yearly wet pipe service activities listed in Table 2.4.2.3 that are applicable to a pre-action system.

Table 2.4.5.4

- 1 Item No. 4.1, third column, *add* ‘service’ before ‘activities’ and *delete* ‘, as’ before ‘listed’.
- 2 Item No. 4.2, third column, *delete* text and *replace* with the following:

COMPLETE all five-yearly wet pipe service activities listed in Table 2.4.2.4 that are applicable to a pre-action system.

Clause 3.2.4

Delete text, including Note, and *replace* with the following:

Baseline data shall be in accordance with Clause 1.8.

Clause 3.2.5

Delete ‘Clause 3.4.1’ and *replace* with ‘Clause 3.4’.

Clause 3.3

Delete listed items and *replace* with the following:

- (a) Monthly.
- (b) Six-monthly.
- (c) Yearly.
- (d) Five-yearly.

Table 3.4.1

- 1 Item No. 1.3, third column, *delete* ‘, as indicated on the valve list’.
- 2 Item No. 1.3, third column, *delete* Notes.
- 3 Item No. 1.4, third column, *delete* ‘indicated on the pressure gauge schedule. Record pressure.’ and *replace* with ‘required and record pressure.’.

4 Item No. 1.7, fourth column, action (c), *insert* the following:

..... V
..... V

5 Item No. 1.14, fourth column, action (k), *delete* ‘Operating pressure.....kPa’.

6 Item No. 1.16, third column, in the first instance, *delete* ‘on’ and *replace* with ‘ON’.

Clause 3.4.2

Second paragraph, *delete* ‘Table 3.4.5’ and *replace* with ‘Clause 3.4.5.2’.

Table 3.4.2

Item No. 2.2, third column, *delete* ‘Item 1.14’ and *replace* with ‘Item 1.17’.

Table 3.4.3

1 *Delete* Item No. 3.2 and *replace* with the following:

3.2	Annual full flow test— Compression ignition (diesel) driven pumpset— Sprinklers and hydrants load test. This test may be combined with tests required by Table 2.4.2.3, Item 3.5 if applicable	(a) With the pump room door(s) closed, and the pump testing technician present:	
		(i) RUN the pumpset at shut-off (zero flow) for 10 min to allow all equipment to attain normal operating temperature.	
		(ii) RUN the pumpset at 130% of duty flow (sprinklers, hydrants or combined as applicable) for 10 min and record the result.	Flow.... L/min @ pressure kPa
		(iii) Reduce the flow to the duty flow (sprinklers, hydrants or combined) for sufficient time to record the water supply proving test results.	Flow.... L/min @ pressure kPa
		(iv) Further reduce the flow until shut-off (zero flow) is achieved and continue to run the pumpset until total run time has reached 30 min.	
		(v) During this period RECORD the following for actions (ii), (iii) and (iv) above:	
		(A) Suction pressures. kPa
		(B) Discharge pressure. kPa
		(C) Engine running temperature. °C
		(D) Engine oil pressure. kPa
(E) Air temperature at the engine intake manifold. °C		
	NOTE: If the pump room temperature rises more than 10°C above ambient temperature, this could indicate inadequate ventilation and possible reduction in engine power.		

		(F) Engine RPM, using both installed tachometer and calibrated tachometer. Record variations. RPM RPM RPM variation
		(vi) While carrying out the above procedures, CHECK temperature of bearings and stuffing box leakage and note and report any abnormality.	
		(b) SIMULATE an engine fail to start and ensure that engine-start cycling requirements and alarm activations are satisfied.	
		(c) TEST correct operation of pump priming tanks and associated equipment, where fitted.	

2 Item No. 3.3, third and fourth columns, *delete* actions (ii) and (iii), and *replace* with the following:

(ii) RUN the pumpset at 130% of duty flow (sprinklers, hydrants or combined as applicable) for 4 min and record the result. L/min kPa
(iii) Reduce the flow to the duty flow (sprinklers, hydrants or combined) for sufficient time to record the water supply proving test results. L/min kPa

3 Item No. 3.3, third and fourth columns, *delete* action (D), and *replace* with the following:

(D) Motor RPM.RPM
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4 Item No. 3.4, third column, action (b), *delete* '(serties)' and *replace* with '(series)'.

5 Item No. 3.12, third column, *delete* 'stated on the pressure gauge schedule' and *replace* with 'required'.

6 Item No. 3.12, third column, *delete* Note and *replace* with the following:

NOTE: Inappropriate settings for pressure-relief valves can result in very large quantities of water flowing to waste. Ensure settings are maintained to have pressures as identified and not higher than allowed by system component rated working pressures.

Clause 3.4.5.1

Delete third paragraph and *replace* with the following:

For hose reel pumpsets, perform the actions set out in Table 3.4.5.1 and Table 3.4.5.2 concurrently at six-monthly intervals.

Table 3.4.5.2

Item No. 6.2, third column, *delete* text and *replace* with the following:

VERIFY that the air pressure is correct.

Clause 4.1

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Second paragraph, third line, *delete* ‘Section 4’ and *replace* with ‘Section 3’.

Clause 4.2.3

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Delete text and *replace* with the following:

Baseline data shall be in accordance with Clause 1.8.

Clause 4.2.4

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Delete ‘Clause 4.4.1’ and *replace* with ‘Clause 4.4’; *delete* ‘Clause 1.17’ and *replace* with ‘Clause 1.16’.

Table 4.4.1

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Item No. 1.3, third column, action (c), *delete* ‘indicated on the pressure gauge schedule’ and *replace* with ‘required’.

Table 4.4.2

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- 1 Item No. 2.2, third column, *delete* ‘as indicated on the valve list’.
 - 2 Item No. 2.2, third column, *delete* Notes.
 - 3 Item No. 2.12, second column, *delete* ‘and pressure gauge schedule’.
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Table 4.4.3

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- 1 Item No. 3.3, third column, action (a), *delete* ‘as indicated on the valve list’.
- 2 Item No. 3.3, third column, action (a), *delete* Notes and *replace* with the following:

NOTE: Where underground key-operated valves are owned by the water supply authority, the owner should arrange for the water supply authority to test the valve(s) to confirm the valve(s) is operational and in the correct position.

- 3 Item No. 3.8, third column, action (b), *delete* ‘in accordance with the building systems interface schematic’ and *replace* with ‘as required’.
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Table 4.4.4

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Item No. 4.1, second column, *delete* text and *replace* with the following:
Monthly, six-monthly and yearly service

Clause 5.2.3

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Delete Note.

Clause 5.3.1

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Delete list items and *replace* with the following:

- (a) Monthly.
- (b) Six-monthly.

- (c) Yearly.
- (d) Ten-yearly (and other frequencies where applicable).

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Table 5.4.1

- 1 Item No. 1.3, third column, action (b), *delete* ‘on the pressure schedule’.
- 2 Item No. 1.3, third column, action (e), *delete* ‘of’ and *replace* with ‘or’.

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Table 5.4.3

- 1 Item No. 3.20, second column, *delete* text and *replace* with the following:

Drain, clean and refill only required after the first year of service, and then every 10 years

- 2 Item No. 3.20, third column, *delete* action (b) and *replace* with the following:

(b) Cleaning all internal surfaces, excluding the roof, with low pressure water spray.

- 3 Item No. 3.20, third column, *delete* Note 1, and *replace* with the following:

1 A diver or other underwater inspection and cleaning technique may be used in lieu of draining the tank in consultation with the tank manufacturer to satisfy warranty requirements.

- 4 *Delete* rows under ‘**TANKS WITH LINERS—(B) BELOW THE WATERLINE**’ and *replace* with the following:

3.27	Flexibility	CHECK for signs of loss of flexibility.
3.28	Discolouration	CHECK to determine the extent of any discolouration to the tank liner.
3.29	Elongation	CHECK for signs of elongation of the liner.
3.30	Bulging	CHECK for signs of the liner bulging out from under the base girder (external).
3.31	Leaks, cuts and tears	CHECK for signs of leaks, cuts and tears of the liner.
3.32	Drain, clean and refill only required after the first year of service, and then every 10 years	DRAIN and CLEAN the tank leaving a minimum of 50 mm of water to prevent liner movement, and—
		(a) remove all sludge and debris without using sharp tools or shovels to prevent tearing and puncturing of the liner;
		(b) clean all internal surfaces, excluding the roof, with low pressure water spray using appropriate footwear to avoid damage to the tank liner; and
		(c) refill the tank as soon as practicable.

		NOTES: 1 For water conservation measures when tanks need to be drained, see AS 2304. 2 Ensure the liner is in the correct position prior to refilling; this includes the positioning of the neoprene mat (where fitted) under the vortex inhibitor bottom support and strainer. 3 A diver or other underwater inspection and cleaning technique may be used in lieu of draining the tank in consultation with the tank manufacturer to satisfy warranty requirements.
3.33	Sludge depth	Complete a sludge depth measurement to determine the next period for draining and cleaning the tank.
3.34	Tank base	Undertake a study of the tank base and liner for weak spots due to undermining, noting that founding material needs to be felt solid at all areas. Minor hollow areas are to be underpinned and major hollowing requires a geotechnical investigation and reassessment of the sealing system.

5 Item No. 2.35, *renumber* to '3.35'.

6 Item No. 2.36, *renumber* to '3.36'.

Table 5.4.4

1 Item No. 4.2, *delete* action (b) and *replace* with the following:

(b) CLEAN all internal surfaces, excluding the roof, with low pressure water spray.

2 Item No. 4.2, Note 1, after the word 'inspection' *insert* 'and cleaning'.

Clause 6.2.4

Delete text, including Note, and *replace* with the following:

Baseline data shall be in accordance with Clause 1.8.

Table 6.4.1.2

Delete Item No. 1.9.

Table 6.4.1.3

1 Item No. 2.7, third column, *delete* 'that' before 'the operation of'.

2 Item No. 2.7, third column, last line, *delete* 'is in accordance with the approved design.'.

3 Item No. 2.9, third column, last paragraph, *delete* 'in accordance with baseline data.' and *replace* with 'as required.'.

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Table 6.4.1.4

- 1 Item No. 3.7, third column, *delete* the second paragraph.
- 2 Item No. 3.7, fourth column, *add* the following above ‘Quiescent’:

Maximum alarm.....I _a

- 3 Item No. 3.10, third column, *delete* ‘baseline’ and *replace* with ‘required’; *delete* ‘(see AS 1670.1)’.
- 4 Item No. 3.10, fourth column, *delete* ‘Baseline’ and *replace* with ‘Required’.
- 5 Item No. 3.11, third column, *delete* ‘in accordance with the approved design’ and *replace* with ‘as required’.
- 6 Item No. 3.12, third column, *delete* ‘in accordance with the approved design’ and *replace* with ‘as required’.
- 7 *Delete* Item No. 3.16.
- 8 Item No. 3.17, third column, action (a), *delete* ‘from the approved design’.
- 9 Item No. 3.17, third column, action (d), *delete* ‘is labelled in accordance with approved design’ and *replace* with ‘are labelled correctly’.
- 10 Item No. 3.18, third column, *delete* ‘in accordance with the approved design’ and *replace* with ‘as required’.
- 11 Item No. 3.29, third column, *delete* ‘according to the approved design’ and *replace* with ‘as required’.
- 12 Item No. 3.30, third column, *delete* ‘in accordance with the approved design’ and *replace* with ‘as required’.

Table 6.4.1.5

- 1 Item No. 4.4, third column, *delete* text and *replace* with the following:

Apply short circuits as required to verify that the short circuit isolation functions as required.
--

- 2 Item No. 4.7, third column, *delete* text and *replace* with the following:

CONDUCT a functional test with each system’s interface and VERIFY that each interfaced system responds to the signal as required (see Appendix D).
--

- 3 Item No. 4.8, third column, *delete* ‘in the baseline data for amplifier’ and *replace* with ‘as required for the amplifier’.
 - 4 Item No. 4.8, fourth column, *delete* ‘Baseline.....Ω’ and *replace* with ‘Required.....Ω’.
 - 5 Item No. 4.10, third column, *delete* ‘in accordance with the approved design’ and *replace* with ‘as required’.
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Table 6.4.2.3

Item No. 2.9, third column, *delete* ‘in accordance with the approved design’ and *replace* with ‘are as required’.

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Table 6.4.3.1

Delete Item 1.1.

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Table 6.4.3.2

1 Item No. 2.19, third column, *delete* text and *replace* with the following:

CONDUCT a functional system test with other interfaced fire systems (see Appendix D) and CHECK the interface functions as required.

2 Item No. 2.21, second column, *delete* text and *replace* with the following:

Survey—Change of structure

3 Item No. 2.22, second column, *delete* text and *replace* with the following:

Survey—Change of occupancy or use

4 Item No. 2.22, third column, *delete* text and *replace* with the following:

INSPECT all areas of the building to ensure that changes to the occupancy are not likely to affect the required performance of the system.

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Table 6.4.3.3

1 Item No. 3.2, third column, *delete* ‘to meet the requirements of the approved design’.

2 Item No. 3.4, third column, *delete* ‘in the baseline data for amplifier’ and *replace* with ‘as required for the amplifier’.

3 Item No. 3.4, fourth column, *delete* text and *replace* with the following:

RequiredΩ
Impedance
per circuitΩ

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Table 6.4.4.1

1 *Delete* Item No. 1.1.

2 Item No. 1.15, third column, *delete* text ‘quiescence’ and *replace* with ‘quiescent’.

3 Item No. 1.19, second column, *delete* text and *replace* with the following:

Survey—Change of occupancy or use

- 4 Item No. 1.19, third column, *delete* text and *replace* with the following:

INSPECT the building to ensure that no changes to occupancy have affected the required audibility of the warden call signal at the WIP.

- 5 Item No. 1.20, third column, after 'installed' *insert* 'where required'.

Clause 7.2.4

Delete text and *replace* with the following:

Baseline data shall be in accordance with Clause 1.8.

Table 7.4.2

- 1 Item No. 1.4, third column, action (b), *delete* '(see Note 2)'.
- 2 Item No. 1.7, third column, *delete* 'from the approved design'.
- 3 *Delete* Notes to Table and *replace* with the following:

NOTE: It is recommended that lock-off valves be retrofitted to gaseous fire extinguishing systems which may result in unsafe concentrations of extinguishing agent developing in occupiable areas (e.g. CO₂ systems). The installation of a lock-off valve introduces the possibility of trapping agent in the pipework. As a result, additional safety devices, including means of indicating trapped pressure, means of manually venting trapped pressure and a means of automatic pressure relief, should be installed in conjunction with the lock-off valve (see AS ISO 14520.1).

Table 7.4.3

Item No. 2.13, second column, *delete* '(see Note 3)' and *replace* with '(see Note 2)'.

Table 7.4.4

- 1 Item No. 3.7, third column, *delete* 'in accordance with the approved design' and *replace* with 'as required'.
- 2 Item No. 3.12, third column, *delete* 'match baseline data'.
- 3 Item No. 3.13, third column, *delete* 'match the baseline data'.
- 4 Item No. 3.14, third column, *delete* 'matches the baseline data'.
- 5 Item No. 3.15, third column, *delete* 'match baseline data'.
- 6 Item No. 3.16, third column, *delete* 'of the approved design'.
- 7 Item No. 3.16, third column, in the Note, *delete* 'conforms with the approved design'.
- 8 *Delete* Item No. 3.19 and Item No. 3.20 and *replace* with the following:

3.19	Ventilation dampers	Test operation of automatically operated ventilation dampers.	
3.20		NOTE: For special hazard system interfaces with HVAC systems, see Clause 1.12 and Section 13.	

- 9 Item No. 3.22, third column, *delete* 'in accordance with the approved design' and *replace* with 'as required'.
- 10 Item No. 3.23, second column, *delete* '(see Clause 1.12.2)' and *replace* with '(see Clause 1.12)'.

11 Item No. 3.23, third column, action (b), *delete* ‘in accordance with the building’s systems interface diagram’ and *replace* with ‘as required’.

12 Item No. 3.26, sixth column, *delete* ‘s’.

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Table 7.4.5

Item No. 4.4, second column, *delete* ‘Gas storage container’ and *replace* with ‘Storage container’.

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Clause 8.2.1

Delete ‘Clause 8.4’ and *replace* with ‘Clause 8.3’.

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Clause 8.2.2

Delete Note.

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Clause 9.2.1

Delete ‘Clause 9.4’ and *replace* with ‘Clause 9.3’.

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Clause 9.2.2

Delete ‘(See also Appendix C.)’.

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Clause 9.2.8.1

Delete Note.

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Table 10.1

Last row, first column, *delete* ‘(Halon)’.

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Clause 10.2.2

Delete Note.

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Clause 10.2.15.1

Delete Notes and *replace* with the following:

NOTE: Ratings for portable fire extinguishers in accordance with AS/NZS 1850 were not required before March 1980.

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Table 10.4.1

Item No. 1.10, third column, *delete* ‘in accordance with AS 2444’.

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Table 10.4.2

Item No. 2.13, third column, action (a), *delete* ‘specified in AS 2444 or the approved design’ and *replace* with ‘required’.

Table 10.4.3

Delete Item No. 3.5 and *replace* with the following:

3.5	Internal condition— Portable extinguishers	CHECK that the interior of the cylinder is clean, is not pitted by corrosion (see AS 2337.1), and any internal lining is in good condition. Where the lining cannot be removed to inspect the interior of the cylinder, the cylinder shall be accepted or rejected as per AS 2337.1. <i>Water (stored pressure), wet chemical, powder (stored pressure), vaporizing liquid.</i>
		For carbon dioxide extinguishers, this examination shall be in accordance with AS 2030.5, and shall be performed at a gas cylinder test station certified by a registered certifying body (see AS 2337.1).

Clause 11.2.1

Delete ‘Clauses 11.3 and 11.4’ and *replace* with ‘Clause 11.3’.

Clause 11.2.2

Delete ‘(See also Appendix C.)’.

Clause 12.2.5

Delete text, including Notes and *replace* with the following:

Baseline data shall be in accordance with Clause 1.8.

Clause 12.2.6

- 1 *Delete* first paragraph.
- 2 *Move* Note to the end of the Clause, before Figure 12.2.6.
- 3 Second paragraph, *delete* ‘Labels shall include—’ and *replace* with ‘Where labels are used, they shall include—’.

Table 12.4.1.4

Item No. 4.1, second column, *delete* ‘label’.

Clause 13.1

In the Note, second line, *delete* ‘baseline data,’.

Table 13.2.1

Third column, sixth row, *delete* ‘Clause 13.5 only’ and *replace* with ‘Clause 13.4.2.8 only’.

Table 13.4.1.12

Item No. 11.4, third column, *delete* ‘against the approved design’.

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Table 13.4.2.6

Item No. 5.1, third column, *delete* '(if part of the approved design)'.

Table 13.4.2.7

Item No. 6.2, third column, *delete* '(if part of the approved design)'.

Clause 14.2.4

Delete Note.

Appendix C

Delete Appendix C.

Appendix G, Paragraph G9

Delete title and text and replace with the following:

G9 ASPIRATING SMOKE DETECTOR (ASD) FUNCTIONAL TEST

Test the operation of the ASD by introducing smoke or other suitable aerosol through the last sampling point on each pipe run or branch of the system. Record the transport time for each pipe run or branch. Verify the transport time taken is within 10% or ± 5 s, whichever is the greater, of the transport time recorded but not more than 120 s.

Report all pipe runs or branches that fail the test.

Where ASD systems are installed and utilize capillary tube connections to room sampling points, test in situ the operation of at least 20% of the sampling points of the system so that all sampling points are tested over a five-year period.

Appendix G, Paragraph G10

Delete text, including Note, and replace with the following:

After 10 years from the date of installation and then every five years thereafter, test and verify the sensitivity of each aspirating smoke detector.

NOTE: This may require that the detector or part of the detector be returned to the manufacturer.

Report each aspirating smoke detector that fails this test.

Alternatively, replace with a new or recalibrated aspirating smoke detector or components as necessary.

Appendix I, Paragraph I1

Delete text and replace with the following:

Refer to Clause 1.8 for guidance and examples on baseline data.
