

Summary – Tank Inspections Report



Royal Hallamshire Hospital
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15th January 2024

Dear Rowan

Preface:

1. Whilst tanks within a building (e.g. generator, bulk or day tanks) are not currently required to comply with the Oil Storage Regulations, we still consider that deficiencies should be dealt with, so that installations can be brought up to an acceptable standard. For example, where these tanks are unbunded, the risk of an uncontained spillage, which may leak out of the plant room and contaminate a surface water gulley or other water course, could be an equally serious matter as a leak from a tank which is required to comply with the Regulations.

Whilst the priority may be to bring tanks that are required to comply up to standard, these installations should not be neglected.

2. Generator Tanks: The Oil Storage Regulations in respect of generator tanks that are located within free standing generator housings have been clarified, and in summary this states that where generator tanks are not “in use”, i.e. standby generators, that the tanks are obliged to comply with the regulations (for example, bunding etc.), as the generator housings are not considered to be “buildings”. So that where the generators are external to buildings and the tanks are over 200 litres capacity, the tanks will have to comply.

3. The appendix is used as a point of reference and only contains some of the key points from the Oil Storage Regulations that we feel are relevant to the oil storage tanks on your site.

Quantity of Tanks onsite: 8

Tank 1



TANK BUND

Capacity Compliant: No.
Refer to Appendix 1, section 6.

TANK BUND

Are there any pipes passing through bund walls? If yes, are they well sealed? No.
Refer to Appendix 1, section 7.

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TANK BUND

Is there water in the bund? No.
Refer to Appendix 1, section 7.

TANK BUND

Clearances - Between tank and base (less than 600mm). Less than 600mm.
Refer to Appendix 1, section 5.

TANK BUND

Jetting - danger of squirting over bund wall if holed at high level? No.
Refer to Appendix 1, section 12.

FILL POINT & FILL PIPES

Is vent visible from fill point? No.
Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.
Refer to Appendix 1, section 31, 19 and 5.

FILL POINT & FILL PIPES (ABOVE GROUND)

Frost protected? No.
Refer to Appendix 1, section 18.

SPILL PROCEDURE AND CLEAN UP KITS/MATERIALS

Are there spill kits readily available for use at all times? No.
Refer to Appendix 1, section 41.

SITE DRAINAGE

Are draining manholes colour coded? No.
Refer to Appendix 1, section 43.

ENVIRONMENTAL ISSUES

Is tank - located where spillage might run to open drain or manhole? Yes.
Refer to Appendix 1, section 2.

SUMMARY OF TANK CONDITION

General condition of:

Tank	Adequate	Pipes	Adequate
Gauges etc.	Adequate	Bund	Adequate

Does the tank comply with the DEFRA Oil Storage regulations 2001? **Yes**

Remarks:

Engineer

Paul Harrison

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Tank 2



TANK BUND

Are there any pipes passing through bund walls? If yes, are they well sealed? No.
Refer to Appendix 1, section 7.

TANK BUND

Is there water in the bund? No.
Refer to Appendix 1, section 7.

TANK BUND

Clearances - Between tank and base (less than 600mm). Less than 600mm.
Refer to Appendix 1, section 5.

TANK BUND

Jetting - danger of squirting over bund wall if holed at high level? No.
Refer to Appendix 1, section 12.

FILL POINT & FILL PIPES

Is vent visible from fill point? No.
Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.
Refer to Appendix 1, section 31, 19 and 5.

FILL POINT & FILL PIPES (ABOVE GROUND)

Frost protected? No.
Refer to Appendix 1, section 18.

SPILL PROCEDURE AND CLEAN UP KITS/MATERIALS

Are there spill kits readily available for use at all times? No.
Refer to Appendix 1, section 41.

SITE DRAINAGE

Are draining manholes colour coded? No.
Refer to Appendix 1, section 43.

ENVIRONMENTAL ISSUES

Is tank - located where spillage might run to open drain or manhole? Yes.
Refer to Appendix 1, section 2.

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SUMMARY OF TANK CONDITION

General condition of:

Tank	Adequate	Pipes	Adequate
Gauges etc.	Adequate	Bund	Adequate

Does the tank comply with the DEFRA Oil Storage regulations 2001? Yes

Remarks:

Engineer

Paul Harrison

Tank 3



TANK BUND

Capacity Compliant: No.
Refer to Appendix 1, section 6

TANK BUND

Are there obvious cracks or holes? Yes.
Refer to Appendix 1, section 7.

TANK BUND

Are there any pipes passing through bund walls? If yes, are they well sealed? No.
Refer to Appendix 1, section 7.

TANK BUND

Is there water in the bund? No.
Refer to Appendix 1, section 7.

FILL POINT & FILL PIPES

Is vent visible from fill point? No.
Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.
Refer to Appendix 1, section 31, 19 and 5.

FILL POINT & FILL PIPES (ABOVE GROUND)

Frost protected? No.
Refer to Appendix 1, section 18.

SPILL PROCEDURE AND CLEAN UP KITS/MATERIALS

Are there spill kits readily available for use at all times? No.
Refer to Appendix 1, section 41.

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SITE DRAINAGE

Are draining manholes colour coded? No.
Refer to Appendix 1, section 43.

ENVIRONMENTAL ISSUES

Is tank - located where spillage might run to open drain or manhole? Yes.
Refer to Appendix 1, section 2.

SUMMARY OF TANK CONDITION

General condition of:

Tank	Adequate	Pipes	Good
Gauges etc.	Poor	Bund	Dangerous

Does the tank comply with the DEFRA Oil Storage regulations 2001? No

Remarks: Holes in bund wall for cables
Replace batteries in alarm

Engineer

Paul Harrison

Tank 4



TANK BUND

Capacity Compliant: No.
Refer to Appendix 1, section 6.

TANK BUND

Are there obvious cracks or holes? Yes.
Refer to Appendix 1, section 7.

TANK BUND

Are there any pipes passing through bund walls? If yes, are they well sealed? No.
Refer to Appendix 1, section 7.

TANK BUND

Is there water in the bund? No.
Refer to Appendix 1, section 7.

TANK BUND

Clearances - Between tank and bund wall (less than 750mm). Less than 750mm.
Refer to Appendix 1, section 5.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.

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Refer to Appendix 1, section 31, 19 and 5.

FILL POINT & FILL PIPES (ABOVE GROUND)

Frost protected? No.

Refer to Appendix 1, section 18.

SPILL PROCEDURE AND CLEAN UP KITS/MATERIALS

Are there spill kits readily available for use at all times? No.

Refer to Appendix 1, section 41.

SITE DRAINAGE

Are draining manholes colour coded? No.

Refer to Appendix 1, section 43.

ENVIRONMENTAL ISSUES

Is tank - located where spillage might run to open drain or manhole? Yes.

Refer to Appendix 1, section 2.

SUMMARY OF TANK CONDITION

General condition of:

Tank	Adequate	Pipes	Good
Gauges etc.	Poor	Bund	Dangerous

Does the tank comply with the DEFRA Oil Storage regulations 2001? No

Remarks: Holes in bund wall for cables

Replace batteries in alarm

Engineer

Paul Harrison

Tank 5



TANK VENT

Tank Vent: In the event of overfilling the tank, will spillage be directed into bund? No.

Refer to Appendix 1, section 15.

FILL POINT & FILL PIPES

Offset Fill Type – outside bund. Outside bund.

Refer to Appendix 1, section 20? & 33.

FILL POINT & FILL PIPES

Is a Fill Point Cabinet Fitted? No.

Refer to Appendix 1, section 21.

FILL POINT & FILL PIPES

Is the Fill pipe or Fill point cabinet lockable? No.

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Refer to Appendix 1, section 20, 21 and 40.

FILL POINT & FILL PIPES

Is a drip tray provided? No.

Refer to Appendix 1, section 20 and 22.

FILL POINT & FILL PIPES

Is a fill cap with retainer provided? No.

Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.

Refer to Appendix 1, section 31, 19 and 5.

FILL POINT & FILL PIPES

Is the fill pipe serving more than one tank? Yes.

Refer to Appendix 1, section 24.

FILL POINT & FILL PIPES

Are the following indicated on or near the fill pipe – Fuel grade? No.

Refer to Appendix 1, section 32, 33 and 20.

FILL POINT & FILL PIPES

Are the following indicated on or near the fill pipe – Usable capacity? No.

Refer to Appendix 1, section 32, 33 and 20.

SITE DRAINAGE

Are draining manholes colour coded? No.

Refer to Appendix 1, section 43.

FIRE

Is tank less than 6m from a building? Yes.

Refer to Appendix 1, section 8, 10 and 42.

SUMMARY OF TANK CONDITION

General condition of:

Tank	Good	Pipes	Good
Gauges etc.	Good	Bund	Good

Does the tank comply with the DEFRA Oil Storage regulations 2001? Yes

Remarks:

Engineer

Paul Harrison

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Tank 6



TANK VENT

Tank Vent: In the event of overfilling the tank, will spillage be directed into bund? No.
Refer to Appendix 1, section 15.

TANK BUND

Is there water in the bund? No.
Refer to Appendix 1, section 7.

TANK BUND

Is there a sump? No.
Refer to Appendix 1, section 13.

TANK BUND

Removal of water from bund. Ad hoc manual system.
Refer to Appendix 1, section 37.

TANK BUND

Clearances - Between tank and bund wall (less than 750mm). Less than 750mm.
Refer to Appendix 1, section 5.

TANK BUND

Clearances - Between tank and base (less than 600mm). Less than 600mm.
Refer to Appendix 1, section 5.

TANK BUND

Jetting - danger of squirting over bund wall if holed at high level? No.
Refer to Appendix 1, section 12.

FILL POINT & FILL PIPES

Offset Fill Type – outside bund. Outside bund.
Refer to Appendix 1, section 20? & 33.

FILL POINT & FILL PIPES

Is a Fill Point Cabinet Fitted? No.
Refer to Appendix 1, section 21.

FILL POINT & FILL PIPES

Is the Fill pipe or Fill point cabinet lockable? No.
Refer to Appendix 1, section 20, 21 and 40.

FILL POINT & FILL PIPES

Is a drip tray provided? No.
Refer to Appendix 1, section 20 and 22.

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FILL POINT & FILL PIPES

Is a fill cap with retainer provided? No.
Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.
Refer to Appendix 1, section 31, 19 and 5.

FILL POINT & FILL PIPES

Is the fill pipe serving more than one tank? Yes.
Refer to Appendix 1, section 24.

FILL POINT & FILL PIPES

Are the following indicated on or near the fill pipe – Fuel grade? No.
Refer to Appendix 1, section 32, 33 and 20.

FILL POINT & FILL PIPES

Are the following indicated on or near the fill pipe – Usable capacity? No.
Refer to Appendix 1, section 32, 33 and 20.

SITE DRAINAGE

Are draining manholes colour coded? No.
Refer to Appendix 1, section 43.

FIRE

Is tank less than 6m from a building? Yes.
Refer to Appendix 1, section 8, 10 and 42.

SUMMARY OF TANK CONDITION

General condition of:

Tank	Good	Pipes	Good
Gauges etc.	Good	Bund	Good

Does the tank comply with the DEFRA Oil Storage regulations 2001? Yes

Remarks:

Engineer

Paul Harrison

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Tank 7



TANK BUND

Tank Bund: No.

Refer to Appendix 1, section 6.

FILL POINT & FILL PIPES

Is vent visible from fill point? No.

Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.

Refer to Appendix 1, section 31, 19 and 5.

SITE DRAINAGE

Are draining manholes colour coded? No.

Refer to Appendix 1, section 43.

FIRE

Is tank less than 6m from a building? Yes.

Refer to Appendix 1, section 8, 10 and 42.

SUMMARY OF TANK CONDITION

General condition of:

Tank	Pipes
Gauges etc.	Bund

Does the tank comply with the DEFRA Oil Storage regulations 2001?

Remarks:

Engineer

Paul Harrison

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Tank 8



TANK BUND

Tank Bund: No.

Refer to Appendix 1, section 6.

FILL POINT & FILL PIPES

Is vent visible from fill point? No.

Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is a Fill Point Cabinet Fitted? No.

Refer to Appendix 1, section 21.

FILL POINT & FILL PIPES

Is the Fill pipe or Fill point cabinet lockable? No.

Refer to Appendix 1, section 20, 21 and 40.

FILL POINT & FILL PIPES

Is a drip tray provided? No.

Refer to Appendix 1, section 20 and 22.

FILL POINT & FILL PIPES

Is a fill cap with retainer provided? No.

Refer to Appendix 1, section 33.

FILL POINT & FILL PIPES

Is an overfill prevention valve fitted? No.

Refer to Appendix 1, section 31, 19 and 5.

FILL POINT & FILL PIPES

Is the fill pipe serving more than one tank? Yes.

Refer to Appendix 1, section 24.

FILL POINT & FILL PIPES

If so, is a common balance pipe provided between tanks? No.

Refer to Appendix 1, section 24.

SITE DRAINAGE

Are draining manholes colour coded? No.

Refer to Appendix 1, section 43.

ENVIRONMENTAL ISSUES

Is tank - located where spillage might run to open drain or manhole? Yes.

Refer to Appendix 1, section 2.

FIRE

Is tank/apparatus fitted with a fire valve? No.

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Refer to Appendix 1, section 8, 10 and 42.

FIRE

Is tank less than 6m from a building? Yes.

Refer to Appendix 1, section 8, 10 and 42.

SUMMARY OF TANK CONDITION

General condition of:

Tank	Good	Pipes	Good
Gauges etc.	Good	Bund	Good

Does the tank comply with the DEFRA Oil Storage regulations 2001? Yes

Remarks:

Engineer

Paul Harrison

Notes concerning the Oil Storage Regulations:

1. We would confirm that there is a legal duty to comply with these Regulations, and it is the person with custody or control over any breach of the Regulations, who will be guilty of a criminal offence, potentially unlimited fines on conviction for non-compliance.
2. All sites should prepare a Contingency or Incident Response Plan. This will include details of the site; reference to any hazard risk assessment, compliance reports (such as the one prepared by ourselves etc.); personnel involved; drainage plan; site access; process activities; emergency procedures, etc.
3. The Oil Storage Regulations make reference to the need for colour coded directional drainage plans to be available in the event of a spill to drainage. We do not know if this exists and have not been shown such a plan. We also assume that due to the size of the site surface water drainage to the car parks are being fed into underground interceptors so as to capture any hydro carbon run off. We do not know if the interceptors are being regularly inspected and serviced as per recommendation of the recent PPG3 and EN858. We would be pleased to advise on this.
4. The Environment Agency has the responsibility to enforce these Regulations and may carry out inspections to check for compliance, and will follow up incidents of oil pollution, and is active in prosecuting those found responsible.

We consider that it is our professional duty to bring this matter to your attention; we would be happy to advise and discuss further when you are ready, and arrange for quotations to be provided to bring the installations up to standard.

Inspection carried out by Paul Harrison on 07/12/2023

Notes:

While tanks within a building (e.g. generator bulk tanks or day tanks) are not currently required to comply with the Oil Storage Regulations, we still consider that deficiencies should be dealt with, so that installations can be brought up to an acceptable standard. For example, where these tanks are unbunded, the risk of an uncontained spillage, which may leak out of the plant room and contaminate a surface water gulley or other water course, could be an equally serious matter as a leak from a tank which is required to comply with the Regulations.

While the priority may be to bring tanks that are required to comply up to standard, these installations should not be neglected. It is our understanding that in the near future additional legislation is to be brought forward to include within the regulations tanks currently excluded.

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We would confirm that there is a legal duty to comply with these Regulations, and it is the person with custody or control of any oil breaching the Regulations, who will be guilty of a criminal offence with, on conviction, potentially unlimited fines for non compliance.

"Offences

9. A person who has custody or control of any oil in circumstances in which there is a contravention of any provision of regulations 3 to 5 or the requirements of a notice under regulation 7 shall be guilty of an offence and shall be liable -

- (a) On summary conviction to a fine not exceeding the statutory maximum; or
- (b) on conviction on indictment, to a fine."

DEFRA, Guidance notes for Control of Pollution (Oil Storage) (England) Regulations 2001

We consider that it is our professional duty to bring this matter to your attention; we would be happy to advise and discuss further when you are ready, and arrange for quotations to be provided to bring the installations up to standard.

Once you have considered the matter we would be happy to provide quotations as required.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Ben Chapman', is enclosed within a thin yellow rectangular border.

Ben Chapman
Andel Ltd

Appendix 1

SECTION	Guidelines Reference	Detail
1	PPG2 section 4.b Building Regulations	<p>Oil tanks connected to fixed combustion appliances, like central heating boilers and cookers, need to comply with the building regulations that apply in England, Northern Ireland, Scotland or Wales (Reference 12). These regulations include requirements for both environmental protection and fire safety. If you're having a new or replacement oil tank fitted or having your tank altered, you should check with your local authority (usually your local council) to see how these Regulations apply to your oil storage tank, or you can have the tank installed by a member of a professional scheme (see Section 15).</p> <p>Even if your oil tank isn't covered by any of the Regulations above, following these guidelines is good practice and will minimise the risk of your oil causing pollution. In some sensitive locations, we may ask for more stringent environment protection measures than are described here.</p>
2	PPG2 section 5.a Avoid high risk locations	<p>We recommend that you don't store oil in high risk locations; these are:</p> <ul style="list-style-type: none"> within 50 metres of a spring, well or borehole; within 10 metres of a watercourse; places where spilt oil could enter open drains, loose fitting manhole covers or soak into the ground where it could pollute groundwater; places where a spill could run over hard ground to enter a watercourse or soak into the ground where it could pollute groundwater; places where tank vent pipe outlets can't be seen from the filling point; above roof level as spilt oil can run down guttering which is connected to surface water systems. <p>Oil spilt in these locations will pollute surface waters and groundwaters. If these locations are unavoidable then check with us before you arrange for a new tank to be installed, as we may require additional environmental protection, e.g. overfill prevention device or oil separator on the surface water drainage system.</p> <p>We recommend at all sites that you have secondary containment for your oil storage tanks wherever you put them, even if it's not required by OSR or Building Regulations, (see Section 5c).</p> <p>You should or, if OSR applies must, ensure that steps are taken, to minimise the risk of damage to the secondary containment system by impact or collision.</p>

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		<p>You should consider access for maintenance and deliveries to the tank (filling). Check with your local oil delivery company before making the final decision on where to place a tank. They need to take into account pollution prevention and health and safety aspects of filling your tank. This includes where they can safely park the oil tanker, where the delivery pipes will run and access to the tank. They will also be able to give advice relating to height of the fill point above ground and delivery pipe sizing.</p>
3	PPG2 Section 6.b Types of oil storage tank	<p>Double skinned tanks have two layers of steel or plastic with a very small space between them; any ancillary equipment is positioned outside the second skin. The space between the two layers is not enough to contain 110% of the oil your tank can hold. If you choose a double skinned tank, it will not be compliant with the OSR England, OSR NI or OSR Scotland unless it's installed in a constructed secondary containment system.</p>
4	PPG 2 Section 6.a Manufacturing and Quality Standards	<p>Tank Quality Standards</p> <ul style="list-style-type: none"> • is expected to last at least 20 years, with proper maintenance, before it needs to be replaced; • is made of a material that is suitable for the type of oil stored; • is of sufficient strength and structural integrity to ensure that it won't burst or leak in ordinary use; • has a way of preventing drain down by gravity e.g. top off-take and / or isolating check valves.
5	PPG2 Section 6.b Types of oil storage tank	<p>Single skinned tanks are tanks made from one layer of steel or plastic. Single skinned tanks must be put into a secondary containment system, often referred to as a bund.</p> <p>Double skinned tanks have two layers of steel or plastic with a very small space between them; any ancillary equipment is positioned outside the second skin. The space between the two layers is not enough to contain 110% of the oil your tank can hold. If you choose a double skinned tank, it will not be compliant with the OSR England, OSR NI or OSR Scotland unless it's installed in a constructed secondary containment system.</p> <p>Integrally bunded tanks have a primary container manufactured with integral secondary containment (see Section 5c and Figure 2) that can hold a minimum of 110% of the volume of oil the inner tank is designed for (Reference 15). Ancillary equipment will also be positioned within the secondary containment.</p>

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		<p>Figure 1. Shows a diagrammatic example of a single skinned oil tank in an open bund that is constructed in situ. The diagram shows both fixed and flexible draw-off pipes. For tanks in open bunds, we recommend there is a minimum distance of 750 mm between the tank and the bund wall and 600 mm between the tank and the base to allow access for external inspection and maintenance.</p> <p>Figure 2. Shows a diagrammatic example of an integrally bunded oil tank. These tanks are manufactured off site and installed onto a suitably constructed base. The diagram shows a fixed draw-off pipe, overfill prevention device and oil monitoring between the tank and secondary containment.</p>
6	PPG2 Section 6.c Secondary Containment (also known as bunds)	<p>Secondary containment is an area around a tank and its ancillary equipment designed to contain any loss of oil and to prevent it from escaping to the environment. It can be manufactured as part of an integrally bunded tank system or built on site ready for the tank to be put into it. Your tank may need to have secondary containment by law depending on where it is and what it's used for. But to protect the environment we recommend you should bund all tanks as it is good environmental practice.</p> <p>Secondary containment must hold at least 110% of the volume of oil the tank is designed to contain.</p> <p>The extra 10% margin is intended to take into account a range of factors, including: loss of the total tank contents, for example due to vandalism or an accident; sudden tank failure or leaks; overfilling; containment of fire-fighting agents; dynamic factors such as overtopping caused by surge and wave action following tank failure; an allowance for rainfall during an oil spill incident.</p> <p>If you have more than one oil storage tank in the system, the secondary containment must be capable of storing 110% of the biggest tank's capacity or 25% of the total capacity, whichever is the greater.</p>
7	PPG2 Section 6.c Secondary Containment (also known as bunds)	<p>Secondary containment must be impermeable to oil and water with no direct outlet: connecting it to any drain, sewer or watercourse; discharging onto a yard or unmade ground.</p> <p>Ideally, any pipework to fill or empty your tank shouldn't pass through the secondary containment floor or walls (the bund). If this is unavoidable, the joint between pipe and bund should be sealed with a material that is resistant</p>

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		<p>to attack by the oil stored, so that the containment remains leak-proof.</p> <p>Don't store anything in the secondary containment as this will reduce the volume available in the event of a spill and can cause a fire risk if it becomes soaked in oil.</p>
8	PPG 2 Section 7 Installing tanks	Tanks should be sited on an appropriately designed and constructed base or support with sufficient room around it to protect the tank from fire in the surrounding area, see BS 5410 (Reference 16). Check what you need for your tank with the tank manufacturer or competent installer.
9	PPG 2 Section 7 Installing tanks	To prevent pollution, the delivery and dispensing area around your tank should have an impermeable surface and be isolated from surface water drainage systems.
10	PPG 2 Section 7 Installing tanks	You should protect your oil storage tank from the risk of fire. Building Regulations (Reference 12) allow for fire protection by using approved distance between the tank and surrounding structures or by a physical fire protection barrier. Don't store any materials close to your tank or in the secondary containment.
11	PPG 2 Section 7 Installing tanks	Above ground oil storage: PPG 2 August 2011 Page 12 of 28 Tanks within buildings – in Northern Ireland and Scotland these must comply with OSRNI or OSR Scotland. In England and Wales follow all good practice recommendations to prevent pollution. Building Regulations are likely to apply.
12	PPG 2 Section 7 Installing tanks	<p>For tanks in constructed secondary containment</p> <p>If your tank is being installed in a constructed bund, the bund should be built using reinforced materials, with no damp-proof course and rendered impermeable to oil. There are detailed specifications and drawings available for constructed bunds using concrete and masonry (References 17, 18 and 19). These will make sure your masonry or concrete bunds are constructed to be oil tight and fit for purpose.</p> <p>Your bund should be designed to reduce the risk of oil escaping beyond the containment area if your tank developed a hole (known as jetting).</p> <p>To reduce the chance of this happening:</p> <ul style="list-style-type: none"> keep the tank as low as possible within the bund; increase the height of the bund walls; leave space between the tank and bund walls; don't put one tank above another.
13	PPG 2 Section 7 Installing tanks	A constructed bund should also have a sump fitted into the base so you can remove rainwater for safe and legal disposal.

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14	PPG 2 Section 7 Installing tanks	<p>The Construction Industry Research and Information Association (CIRIA) suggests in locations with high rainfall, 110% capacity in an open bund may not be enough to provide protection from loss of oil (see Reference 17). They give an alternative method to calculate the size of secondary containment needed for tanks in open bunds in locations with high rainfall. The method for calculating bund capacity depends on the risk of polluting water. If you're in any doubt about the sensitivity of a site, consult us.</p>
15	PPG2 Section 8 Ancillary equipment	<p>Ancillary Equipment These are the fittings and pipework that all tanks will have, e.g. a vent pipe, but others may be needed according to the tank type, location or use. For example: a heating oil tank may have a fixed draw off pipe; a tank used for refuelling may have a pump and flexible hose to deliver oil; a tank with a remote fill point or in a sensitive location may have an overfill prevention device.</p> <p>Ancillary equipment, e.g. valves, filters, sight gauges, vent pipes, must be within the secondary containment system so any discharges of oil are retained. Many of these fittings are shown in Figures 1 and 2 above and are discussed below. An oil tank user guide 'Get to know your oil tank', might also be useful to you, Reference 20.</p>
16	PPG2 Section 8.a Measuring tank contents	<p>You need to be able to measure how much oil is left in your tank so you can order the right amount when your tank needs refilling and to monitor how fast you use your oil. There are many products available to measure tank contents including electronic, float and hydrostatic gauges, sight or visual gauges and dip sticks. Some are read at the tank others remotely. Ask the tank manufacturer or a qualified competent tank installer for advice on a suitable system for your tank. If storing flammable liquids (as classed by Health and Safety Executive (HSE)), your gauge should be safe for use with the product you store.</p>
17	PPG2 Section 8.a Measuring tank contents	<p>Sight gauges must be located in the secondary containment; must be properly supported so it can't come loose; must be fitted with a valve that closes automatically when the gauge isn't in use; valves should never be kept open; valves should only be opened when taking contents' readings.</p>

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		<p>Delivery drivers should close sight gauge valves at the end of their delivery. After your tank has been filled, check that the sight gauge is shut and isn't leaking. Sight gauge tubes aren't suitable for use with integrally bunded oil tanks. Dipstick - only use it in the tank for which it is intended.</p>
18	PPG2 Section 8.b Pipework	<p>All pipework should be: made of a material suitable for use with the oil you're storing; supported so it's secure and can't come loose; positioned or protected to minimise the chances of damage by impact or collision; protected against corrosion; where appropriate, insulated to prevent freezing up and frost damage.</p>
19	PPG2 Section 8.b Pipework	<p>Vent pipe This allows oil vapour and air to escape from the tank when it is being filled and allows air in when fuel is being drawn off. We recommend that tanks (including those in buildings) are installed so that vent pipes can be easily seen during deliveries; and that the vent pipes are within and discharge into the secondary containment system. Legal requirements: In England: Vent pipes must within the secondary containment system and must be arranged so that any discharge is directed vertically downwards into the system. The tank must be fitted with an automatic overfill protection device, if the filling operation is controlled from a place where it is not reasonably practicable to see the tank and any vent pipe.</p>
20	PPG2 Section 8.b Pipework	<p>Fill point The fill point is where the tanker delivery pipework connects to fill the tank. There are different arrangements depending on tank type, size and location. Coupling - If your tank fill point has a serviceable screw fitting or other fixed coupling, it must be used when filling the tank. The fill point should have a lockable fill cap with a chain and be marked clearly with the product type, tank capacity and, where appropriate, tank number. The cap should be replaced to the pipe after each delivery to protect it from damage and unauthorised use.</p>
21	PPG2 Section 8.b Pipework	<p>Position – we recommend your fill point should be at the tank and within the secondary containment system (OSR England only) or in a suitable cabinet with a drip tray to catch any oil spilled during deliveries. Where your fill point is outside the secondary containment system, a</p>

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		drip tray must be used to catch any oil spilled during deliveries.
22	PPG2 Section 8.b Pipework	<p>Fill point drip trays should be:</p> <ul style="list-style-type: none"> clean, free from water and other debris before each use; large enough to hold all the oil that could be lost when the fill point shut off valve has been closed and the delivery hose is disconnected; able to be moved without risk of spilling the oil - we recommend your drip tray holds at least 3 litres, it may need to be larger; checked after each delivery and if necessary safely emptied before being put away; we recommend you ask your oil delivery company to do this for you; kept somewhere safe where they can't collect rain water when not in use.
23	PPG2 Section 8.b Pipework	<p>Remote fill - if there's no alternative and you have to have a fill point which isn't near the tank (or it isn't practical to see the tank and vent pipe), a remote fill point will be needed. Your registered, competent tank installer (see Section 15) can advise you about standards required for remote fill points. If you have a remote filling point and the vent pipe can't be seen during delivery you must have an overfill prevention device.</p> <p>Shut-off valves should be fitted to extended fill pipes because they can retain oil after the delivery.</p>
24	PPG2 Section 8.b Pipework	<p>If you have more than one tank - provide separate fill pipes for each tank, unless they're connected by a balance pipe with a greater flow capacity than the fill pipe. Each fill pipe should have its own fill point shut off valve, and be marked with its corresponding tank/compartiment number, volume and type of oil.</p>
25	PPG2 Section 8.b Pipework	<p>Pipework to take oil from your tank (draw-off or supply pipe)</p> <p>The general points above apply. Whenever possible, site supply pipework above ground to make it easier to inspect and repair. We recommend using tanks that have top outlet off take pipes; and that feed lines should have anti siphon and isolating valves to prevent the tank contents draining down because of leaks, damage, theft or vandalism.</p> <p>Use pumped dispensing from oil storage tanks for refuelling to reduce the chance of oil spills. If you can't avoid gravity dispensing then tanks should be properly supported and installed.</p> <p>Suitable secondary containment for the tank and its ancillary equipment should be designed to reduce the chance of oil 'jetting' from the high tank in the event of an overfill or damage.</p>

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		Consider the risk to the user from working at height (to fill, inspect, maintain and draw-off), suitable ladders, railings and other health and safety equipment may be necessary.
26	PPG2 Section 8.b Pipework	Filters or isolating valves used to protect the draw-off pipe or downstream equipment in a gravity-feed system aren't considered ancillary to the container. Where practicable, locate this equipment within the secondary containment system. We recommend that valves should be lockable or have removable hand wheels.
27	PPG2 Section 8.b Pipework	<p>Flexible delivery pipes</p> <p>These should only be used where you need to move the end delivery point, for example when fuelling vehicles. Fit the pipe with a tap or valve at the delivery end, which closes automatically when not in use; we recommend you use a trigger nozzle designed to dispense oil. Where the pipe isn't fitted with an automatic shut-off device, it mustn't be possible to fix the tap or valve in the open position. The pipe must either: have a lockable valve where it leaves the tank which is locked when not in use and be kept in the secondary containment; or must be in an enclosed secure cabinet which is locked shut when not in use and has a drip tray.</p>
28	PPG2 Section 8.b Pipework	<p>Dispensing pumps should be:</p> <ul style="list-style-type: none"> positioned to minimise the risk of damage by collision; fitted with a valve in its feed line that prevents the tank contents emptying if there's damage to the pump or feed line; protected from unauthorised use. <p>Pumps are not ancillary to the oil tank. You should ensure any oil that could leak from a pump is contained either by a bund or drip tray. Pumps for oil with a flash point below 55°C should never be within the secondary containment system because of the risk of explosion. If your pump is within the secondary containment, check it's positioned above the 110% containment level so it can't become submerged.</p>
29	PPG2 Section 8.b Pipework	<p>Underground pipework</p> <p>These should be avoided where possible as they can't easily be checked for damage or leaks and have a greater risk of causing pollution. You should only use underground pipe work where you can't fit pipes above ground. If you do have them we recommend they should:</p> <ul style="list-style-type: none"> be double skinned pipes be within concrete ducting have as few joints as possible

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		<p>be marked clearly on site plans and when possible on the ground.</p> <p>Underground pipework must also be protected against corrosion and from physical damage like that caused by excessive surface loading, ground movement or ground disturbance. If mechanical joints have to be used, they must be readily accessible for inspection under a hatch or cover.</p> <p>You must have adequate facilities for detecting leaks from underground pipework. If you use a continuous leak detection device, it should be maintained and tested regularly (in Scotland at least every 5 years). Keep a record of the test results and any maintenance work completed. If you don't have a continuous leak detection system you must test:</p> <ul style="list-style-type: none"> pipework before use pipework with mechanical joints every five years all other pipe work at least every ten years. <p>These are minimum requirements and it's good practice to do this more frequently.</p>
30	PPG2 Section 8.b Pipework	<p>Taps and valves</p> <p>Taps and valves that are permanently attached to the tank and that oil can be discharged from the tank through must:</p> <ul style="list-style-type: none"> be fitted with a lock be locked shut when not in use.
31	PPG2 Section 8.c Overfill prevention devices	<p>We recommend the use of overfill prevention devices to safeguard against spills. These can be electronic or mechanical which either sound an alarm and/or give a visual warning or automatically stop the oil delivery into the tank. They may be a legal requirement depending on tank location, fill point and vent pipe arrangements.</p>
32	PPG2 Section 9 Safe deliveries to your tank	<p>All your tanks should be labelled with the capacity and type of oil they contain and should be individually numbered to help identify them. Before you order an oil delivery:</p> <ul style="list-style-type: none"> check how much oil is in the tank work out the spare capacity decide how much oil you need but make sure you don't over order.
33	PPG2 Section 9 Safe deliveries to your tank	<p>Supervise all deliveries. Ensure that whoever is supervising the delivery knows about the tank, its equipment and what to do if there's a spill. If you have more than one tank, make sure the correct tank is being filled. The Federation of Petroleum Suppliers (FPS) produces information on safe deliveries. For additional information, see Section 15.</p>

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		<p>If your tank is filled from a place where it is not practicable to see the tank and any vent pipe, it may need to have a remote fill point fitted. Where a tank has a remote filling point and the vent pipe can't be seen during the filling operation you must have an automatic overfill prevention device fitted to your tank. We don't recommend remote filling points unless there isn't an alternative. Your registered, competent tank installer, (see Section 15) can advise you about standards required for remote fill points.</p> <p>If your tank has a serviceable screw fitting or other fixed coupling, it must be used when filling the tank. Your fill point should have a lockable fill cap with a chain and be marked clearly with the product type, tank capacity and, where appropriate, tank number. Make sure the cap is replaced to the pipe after each delivery to protect it from damage and unauthorised use, (see Section 7b for more information on fill points).</p>
34	PPG2 Section 9 Safe deliveries to your tank	<p>Dealing with spills</p> <p>The area around your tank where deliveries are made and, if applicable, oil is dispensed should have an impermeable surface and be isolated from surface water drainage systems. This will prevent oil and/or contaminated water getting into the soil and groundwater. If any oil is spilt during an oil delivery, you should make sure that it can't run into a surface water drainage system. You should consider if you need a suitably sized oil separator to direct oily liquid away from surface waters and prevent oil escaping from your site. This will reduce the risk of any spilt oil causing pollution if there's a spill. Also check with us to see if environmental sensitivities in your local area mean drainage from this area should pass through an oil separator of an approved design (see PPG 3: Reference 21).</p>
35	PPG2 Section 10.a Secondary containment capacity	<p>Make sure your secondary containment has the capacity to take at least 110% of the volume your oil tank can hold.</p> <p>For integrally banded tanks, you can contact the tank manufacturer with the model of your tank; this information should be on your tank somewhere. They should be able to confirm the secondary containment capacity.</p> <p>For single or double skinned tanks within a constructed secondary containment system, you can calculate the bund volume yourself. You can take account of any volume taken up by tank supports within the bund and consider the volume taken up by any of the primary tank, pipework or pumps. Advice on calculating bund capacity is given in Appendix B.</p>
36	PPG2 Section 11 Looking after your tank	<p>Maintenance</p> <p>Your tank manufacturer will be able to tell you what regular maintenance your tank needs. Use</p>

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		<p>a registered competent technician to check your tanks, secondary containment and pipework every year and remove any condensation water that has accumulated within the tank. You should receive a written report on the state of your tank after the inspection is completed. Any repairs or alterations detailed in the report should be done by a registered, competent technician straightaway.</p> <p>You should also inspect all accessible parts of your tank, secondary containment, ancillary equipment and pipework regularly, for signs of damage or leaks. If you're unsure how frequently you should do this, contact us for advice. If you notice any damage, you should have it repaired or replaced immediately.</p> <p>To make sure a constructed bund retains its integrity, use a reputable company to repair any defects in the bund wall or lining promptly.</p> <p>Keep a log of the inspections, any repair work on your tanks and who's done it.</p> <p>Record oil usage. Regularly make a note of how much oil is in your tank and compare this to your previous usage. Contact us if you need advice about methods of monitoring your oil use and how often. If you're suddenly using more oil and you can't explain why, this could indicate a problem with your tank or pipework. You should ask a registered, competent technician to check your tank and pipework for faults and make any repairs immediately.</p>
37	PPG2 Section 11 Looking after your tank	<p>Removing rain water. If you have a tank in an open bund, check the bund after heavy rainfall. If there's no rainwater in the bund, it might not be sealed properly and you should have it inspected and repaired. If rain water has collected in your bund, it will reduce the amount of oil it can contain. If it's necessary to remove accumulated rainwater, we recommend you do this with a manually operated pump or by bailing from the sump. Advice on disposal of bund water from domestic oil storage is available, (see Reference 22). In remote locations, you could use automatic systems that can distinguish between the oil and water in the bund. If you install one of these systems, you need to contact us for advice on where you can dispose of the discharge.</p>
38	PPG2 Section 11 Looking after your tank	<p>What you should do with your old tank</p> <p>Make sure that a tank is fully drained, degassed and certified when it's taken out of use and before it's removed. Only suitably qualified and competent technicians should do this work. Never carry out work that heats the tank until after it has been degassed and the appropriate certificate issued (see Reference 25). Under waste management legislation, decommissioned tanks taken off site must be removed by a licensed waste carrier and must be accompanied by a waste transfer note. Tanks can only be</p>

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		<p>disposed of at an appropriately licensed facility. Contact us to find your nearest site.</p> <p>After your tank has been decommissioned or removed, check that the surrounding soil or groundwater hasn't been contaminated. This can include testing surface and subsurface soil and groundwater samples for products relating to what you were storing. If contamination is found, take action as soon as possible to remove the pollution. Make sure you repeat the testing after the work has been done to ensure all the contamination has been removed. For more information see Reference 2 or contact us.</p>
39	PPG2 Section 12 Mobile bowers	<p>Mobile bowers are oil storage containers that can dispense oil and are designed to be moved, either being towed or lifted onto another vehicle, but which can't move under their own power. As well as the requirements for the storage container (Section 5) and secondary containment (Section 5c) above, the following apply to mobile bowers:</p> <p>Any flexible pipe, tap or valve must be fitted with a lock where it leaves the container and be locked shut when not in use;</p> <p>Flexible delivery pipes must be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use. We recommend you use a nozzle designed to dispense oil;</p> <p>The pump or valve must have a lock and be locked shut when not in use.</p>
40	PPG2 Section 13 Security	<p>Your oil storage areas should be secured to prevent theft and vandalism. Permanent taps or valves through which oil can be discharged to open areas should be locked when not in use. Display a notice telling users to keep valves, nozzles and trigger guns locked when they're not in use. Pumps should also be protected from unauthorised use.</p> <p>Valve taps or levers should be corrosion resistant, strong enough to be tamperproof when locked and marked to show whether they are open or closed. When not in use, they should be locked shut. If the tank is being decommissioned then any valve taps or levers should be fitted with a blanking cap or plug.</p>
41	PPG 2 Section 14 Oil spills	<p>An oil spill from your tank is likely to cause pollution; this will damage the environment and your reputation. Keep a spill kit with commercial sorbent products, sand or earth close to your oil storage to deal with spills, and make sure you or your staff know how to use it safely. Our incident response planning guidance PPG21, Reference 25, tells you how to draw up a plan. Dealing with spills: PPG 22, reference 26, will help you decide what action you may be able to take if you have a spill. These guidelines set out best practice for</p>

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		<p>producing an incident response plan to deal with an environmental incident on your site. Following a plan will help prevent or reduce environmental damage if an incident occurs.</p> <p>If you have a spill, take immediate action to stop the oil getting into any drains or watercourses. If you can, soak up the spilt oil with the contents of your spill kit, without putting yourself in danger. Don't hose the spillage down or use any detergents to try to get rid of it; you could make the pollution worse. Notify us by calling the Emergency Hotline on 0800 80 70 60. If oil soaks into the ground, the soil soaked in oil should be removed, by a professional company, so it doesn't cause long term pollution. Store any materials that are soaked in oil in containers that won't let the oil run away until it can be correctly and legally disposed of. Surface and subsurface soil and groundwater samples may need to be taken and tested for products relating to the incident. For details on how to legally dispose of materials soaked in oil, see Reference 9.</p>
42	(Section J 5.4 of Building Regulations, Table 5.1 for Fire Protection for Oil Storage Tanks)	<p>"Make building walls imperforate (1) within 1800mm of tanks with at least 30 minutes' fire resistance (2) to internal fire and construct eaves within 1800mm of tanks and extending 300mm beyond each side of tanks with at least 30 minutes' fire resistance to external fire and with non-combustible cladding; or b. Provide a fire wall (3) between the tank and any part of the building within 1800mm of the tank and construct eaves as in (a) above. The fire wall should extend at least 300mm higher and wider than the affected parts of the tank."</p>
43	PPG21 Section 2.1e Site plan	<p>This should be a clear diagram of the site showing layout and access details, along with a schematic representation of the site drainage arrangements. Features that you should show are:</p> <ul style="list-style-type: none"> • the layout of buildings; • access routes and meeting points for emergency services; • the location of process areas and any on-site treatment facilities for trade effluent or domestic sewage; • areas or facilities you use to store raw materials, products and wastes (include details of tank sizes and products stored); • bunded areas, with details of products stored and estimated retention capacity; • location of hydrants, 'fireboxes' and pollution prevention equipment and materials; • any watercourse, spring, borehole or well located within or near the site; • areas of porous or unmade ground;

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		<ul style="list-style-type: none">• site drainage – foul, surface and trade effluent drainage systems including features such as:<ul style="list-style-type: none">— inspection points to detect pollution;— oil separators/interceptors – reference 13 PPG3;— firewater/spillage containment systems;— balancing tanks;— pollution control devices (shut-off valves/penstocks fitted in drains);— sacrificial containment areas such as car parks;— other areas suitable for portable storage tanks, for blocking drains and temporary storage of firewater. <p>You should provide a brief description of how all facilities operate and make sure they're clearly labelled above ground (see section 2.2)</p>
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