

Oil Storage Installations Building (Oil Storage Installations) Regulations

An oil storage installation is defined in section 2(1) of the Buildings Ordinance as any tank having a capacity of not less than 110,000 litres or a group of tanks (within the same cluster or bunded area) any one of which has a capacity of not less than 110,000 litres, constructed above ground level for the purpose of storing petroleum products.

2. The construction of an oil storage installation should not commence without having first obtained approval and consent under Buildings Ordinance section 14(1).

3. An above-ground oil storage installation will be deemed to satisfy the requirements of the Building (Oil Storage Installations) Regulations (the Regulations) if it meets the standards set out in the Code of Practice for Oil Storage Installations 1992.

4. An oil storage installation should not commence operation before a licence to do so has been granted under the Regulations.

5. All existing oil storage installations and their associated works should have been licensed under the Regulations. Any new installation and its associated works will require a licence. Any alterations and additions (including a new tank) to an existing installation or its associated works will require an endorsement in the licence for the installation. As a prerequisite to the granting of a licence for a new installation, the following documents in respect of the proposed operation instructions of the installation and its associated works should be submitted for agreement :

- (a) six copies of the proposed operation instructions in English and one copy in Chinese (Although for licensing purposes the operation instructions are written in English, it is essential that they should also be written in Chinese to ensure clear understanding of the operation by each grade of personnel); and
- (b) one set of the general arrangement plans.

In the case of an endorsement of alterations and additions in the licence of an existing installation where operation changes are proposed, amended operation instructions and general arrangement plans should also be submitted for agreement.

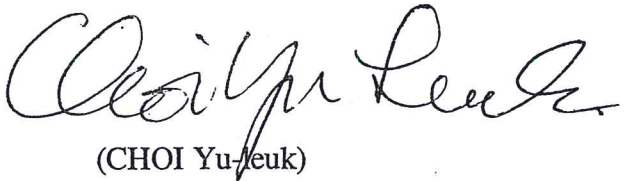
6. It should be noted that an occupation permit and a certificate of general inspection are required prior to the granting of a licence for new installations. For new tanks in an existing licensed installation, the original licence should be returned with the application for endorsement. The licence is renewed annually and the application must be accompanied by the certificates of external inspection of the tanks as required under Regulation 8(1)(b) of the Regulations, in the form as attached at Appendix B, and certificate of inspection of the associated works as required by Regulation 8(1)(c), in the form as attached at Appendix C.

7. In addition, in accordance with Regulation 8(1)(a), a general inspection must be carried out of all tanks internally not later than the tenth year in the life of the tank. Thereafter, such inspection shall be carried out once in the fifth year after the year in which the first inspection was carried out. Each certificate of general inspection of a tank must be issued immediately after the inspection, in the form as attached at Appendix A, to the licensee who shall then deliver it to the Building Authority.

8. For the repair of or the alteration and addition to an existing installation, two copies of the proposals, signed by a registered structural engineer, should be submitted in order to obtain written authorization, as required under Regulation 10. Where the repair works are considered to be extensive on the basis of the fact and special circumstances of the particular case, or where the alteration and addition involve non-exempted building works, formal approval under the Buildings Ordinance should also be sought. The normal requirements and procedures under the Buildings Ordinance for carrying out building works apply.

9. There have been cases where partially constructed tanks are damaged during a typhoon. Suitable precautionary measures should therefore be adopted during the construction or repair of tanks in anticipation of unfavourable weather conditions.

10. Demolition of the whole or any part of an oil storage installation must be carried out in such a manner as to minimize the risk of environmental pollution, fire or explosion. A clear statement of the method of demolition to be employed should be submitted for agreement and be to the satisfaction of the Building Authority before, or with, the application for consent to commence work or the application for written authorization, as the case may be. The guidelines and procedures as stipulated in the attached Appendix D (Guidance Notes on Demolition Methods of Oil Storage Installations) and Practice Note for Authorized Persons and Registered Structural Engineers 71 (Demolition Works - Measures for Public Safety) should be taken into account in the design of the demolition methods.


(CHOI Yu-leuk)
Building Authority

Ref. : BD GP/BREG/A/6/1

First issued May 1978

This revision March 1996 (AD/SE) - paragraph 10 revised and Appendix D added.

Index under : Building (Oil Storage Installations) Regulations
Oil Storage Installations

INSPECTION OF TANKS
BUILDING (OIL STORAGE INSTALLATIONS) REGULATIONS

PNAP 48
Appendix A

REGULATION 8(1)(a)

CERTIFICATE OF GENERAL INSPECTION

....., 19

In accordance with the provisions of Regulation 8(1)(a) of the Building (Oil Storage Installation) Regulations, I
Registered Structural Engineer, hereby CERTIFY that I have *inspected/supervised the
general inspection of the tank forming part of the oil storage installation operated by
..... (Company)
..... address
..... lot No.
and in my opinion this tank is

☐ structurally sound and fit for service for a further twelve months *and the
undernoted corrective measures are required

☐ unfit for service until the undernoted measures are completed to my
satisfaction

TANK NO.		CAPACITY	FIXED OR FLOATING ROOF		YEAR BUILT	DATE OF INSPECTION
BA	CO.					
No.	INSPECTION ITEM	CONDITION		REMARKS/RECOMMENDATION FOR CORRECTIVE MEASURES		
		SATISFACTORY	REPAIR			
1	ULTRASONIC TEST					
	a) 1ST/2ND COURSES SHELL	<input type="checkbox"/>	<input type="checkbox"/>			
	b) BASE PLATE	<input type="checkbox"/>	<input type="checkbox"/>			
2	EXTERNAL/INSULATION PAINTWORK	<input type="checkbox"/>	<input type="checkbox"/>			
3	SETTLEMENT+	<input type="checkbox"/>	<input type="checkbox"/>			
4	PERIPHERAL BASE SEAL	<input type="checkbox"/>	<input type="checkbox"/>			
5	EXPOSED BOTTOM PLATE AND JOINT	<input type="checkbox"/>	<input type="checkbox"/>			
6	EARTH CONNECTION	<input type="checkbox"/>	<input type="checkbox"/>			
7	TANK FOUNDATION AND SURFACING	<input type="checkbox"/>	<input type="checkbox"/>			
8	ROOF STRUCTURE	<input type="checkbox"/>	<input type="checkbox"/>			
9	STAIRS, WALKWAYS	<input type="checkbox"/>	<input type="checkbox"/>			
10	DRAINAGE FROM AND AROUND TANK	<input type="checkbox"/>	<input type="checkbox"/>			
11	MISC.	<input type="checkbox"/>	<input type="checkbox"/>			

+ Settlement Record Overleaf

* Delete as appropriate

SETTLEMENT RECORD

TANK NO. _____ : DIAMETER = _____ METRES : HEIGHT = _____ METRES

SURVEY MEASUREMENTS TAKEN ON _____ (DATE)

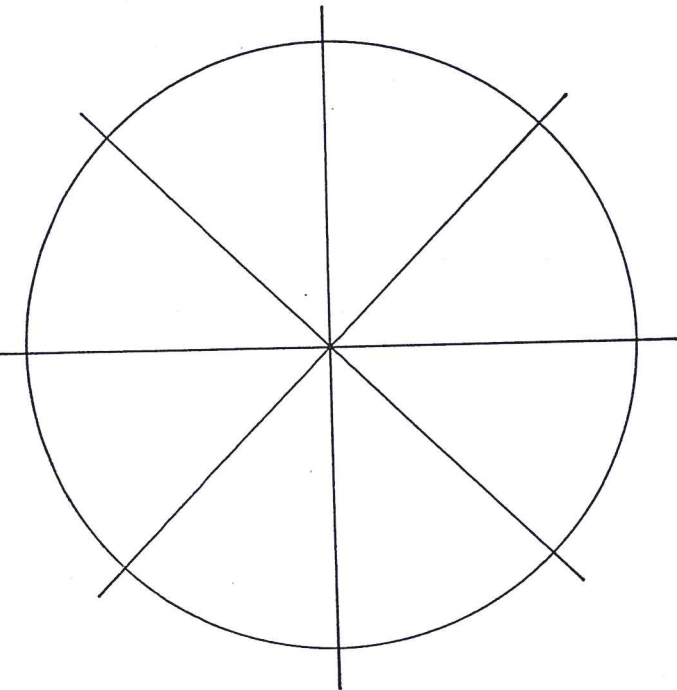
MAXIMUM DIAMETRIC DIFFERENTIAL SETTLEMENT = _____ MM BETWEEN PERIMETER POINTS _____

MAXIMUM ANGULAR DISTORTION = 1 : _____ BETWEEN PERIMETER POINTS _____

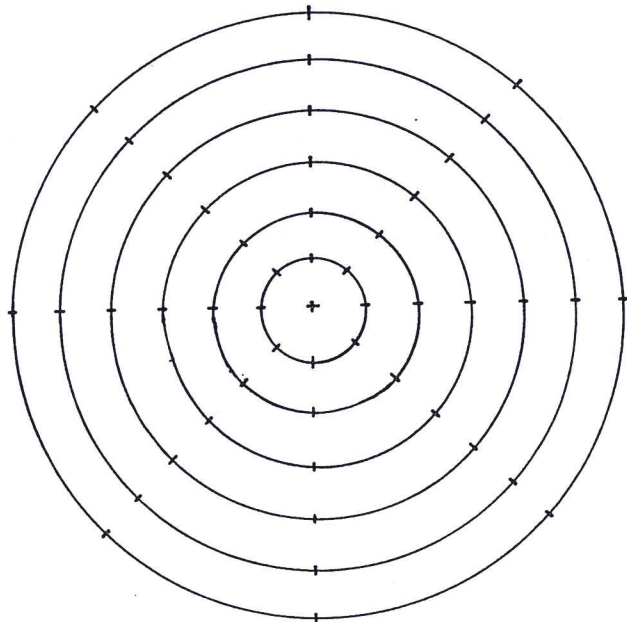
MAXIMUM TILT = _____ MM

BASE PLATE CENTRE LEVEL = _____ METRES P.D.

MINIMUM MEASURED THICKNESS OF BASE PLATE = _____ MM



PERIMETER LEVELS



BASE PLATE CONTOUR PLAN



.....
Signature of Registered Structural Engineer

.....
Address of Registered Structural Engineer

INSPECTION OF TANKS
BUILDING (OIL STORAGE INSTALLATIONS) REGULATIONS
REGULATION 8(1)(b)

CERTIFICATE OF EXTERNAL INSPECTION

....., 19

In accordance with the provisions of Regulation 8(1)(b) of the Building (Oil Storage Installation) Regulations, I
Registered Structural Engineer, hereby CERTIFY that I have *inspected/supervised the
external inspection of the tank forming part of the oil storage installation operated by
..... (Company)
..... address
..... lot No.
and in my opinion this tank is

☐ structurally sound and fit for service for a further twelve months *and the
undernoted corrective measures are required

☐ unfit for service until the undernoted measures are completed to my
satisfaction

TANK NO.		CAPACITY	FIXED OR FLOATING ROOF		YEAR BUILT	DATE OF INSPECTION
BA	CO.					
No.	INSPECTION ITEM	CONDITION		REMARKS/RECOMMENDATION FOR CORRECTIVE MEASURES		
		SATISFACTORY	REPAIR			
1	ULTRASONIC TEST 1ST/2ND COURSES	<input type="checkbox"/>	<input type="checkbox"/>			
2	EXTERNAL/INSULATION PAINTWORK	<input type="checkbox"/>	<input type="checkbox"/>			
3	SETTLEMENT+	<input type="checkbox"/>	<input type="checkbox"/>			
4	PERIPHERAL BASE SEAL	<input type="checkbox"/>	<input type="checkbox"/>			
5	EXPOSED BOTTOM/ PLATE/JOINT	<input type="checkbox"/>	<input type="checkbox"/>			
6	EARTH CONNECTION	<input type="checkbox"/>	<input type="checkbox"/>			
7	TANK FOUNDATION AND SURFACING	<input type="checkbox"/>	<input type="checkbox"/>			
8	ROOF STRUCTURE	<input type="checkbox"/>	<input type="checkbox"/>			
9	STAIRS, WALKWAYS	<input type="checkbox"/>	<input type="checkbox"/>			
10	DRAINAGE FROM AND AROUND TANK	<input type="checkbox"/>	<input type="checkbox"/>			
11	MISC.	<input type="checkbox"/>	<input type="checkbox"/>			

+ Settlement Record Overleaf

* Delete as appropriate

SETTLEMENT RECORD

TANK NO. _____ : DIAMETER = _____ METRES : HEIGHT = _____ METRES

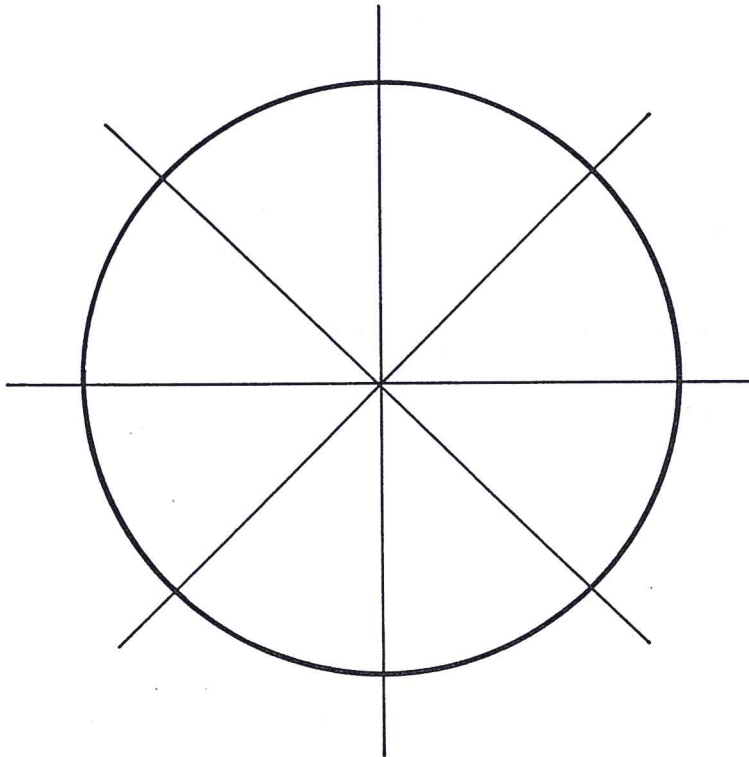
SETTLEMENT MEASUREMENTS TAKEN ON _____ (DATE)

LEVEL OF PRODUCT IN TANK = _____ METRES

MAXIMUM DIAMETRIC DIFFERENTIAL SETTLEMENT = _____ MM BETWEEN
PERIMETER
POINTS _____

MAXIMUM ANGULAR DISTORTION = 1 : _____ BETWEEN
PERIMETER
POINTS _____

MAXIMUM TILT = _____ MM



.....
Signature of Registered Structural Engineer

.....
Address of Registered Structural Engineer

c.c. Director of Fire Services

BUILDING AUTHORITY OF HONG KONG
BUILDINGS ORDINANCE
(Chapter 123)
BUILDING (OIL STORAGE INSTALLATIONS) REGULATIONS
Regulation 8(1)(c)

Certificate of Inspection of Associated Works

To the Building Authority,

In accordance with the provisions of Regulation 8(1)(c) of the Building (Oil Storage Installations) Regulations, I
_____, Registered Structural Engineer, hereby
CERTIFY that I have inspected/supervised the inspection on _____ of the associated
works of the oil storage installation operated by _____
_____ (company)
at _____ (address)
on _____ (lot no.)
and in my opinion the associated works are

☐ fit for use for a further twelve months and the repairs listed in paragraph 2 below are required.

☐ unfit for use until the repairs listed in paragraph 2 below are completed to my satisfaction.

2. The following repairs to the associated works are required :

Signature of Registered Structural Engineer

Date _____

Address of Registered Structural Engineer

c.c. Director of Fire Services

Guidance Notes on Demolition Methods of Oil Storage Installations

Environmental Impacts

1. In order to minimize the environmental impacts arising from the demolition of oil storage installations, the guidelines and procedures stipulated in the following documents should be taken into account in the design of the demolition methods :

- (a) Professional Persons Environmental Consultative Committee Practice Note 3/94 on Contaminated Land Assessment and Remediation, Practice Note 1/93 and Practice Note 2/93 on Noise from Construction Activities, obtainable from the Technical Secretary of the Environmental Protection Department;
- (b) Practice Note for Authorized Persons and Registered Structural Engineers 144 on Control of Environmental Nuisance from Construction Sites; and
- (c) The Air Pollution Control Ordinance on the submission of Asbestos Investigation Report and Asbestos Management Plan, if disposal of asbestos waste is involved.

Protection Hoarding

2. The work area is to be enclosed with a suitable hoarding to prevent unauthorized access. Where only part of an oil storage installation is to be demolished, or where the oil storage installation is to be demolished in stages, a fire screen should be erected to separate the part being demolished from the remainder of the storage facility in operation.

Gas Freeing

3. Full precautionary measures as recommended in the Institute of Petroleum Marketing Safety Code should be carried out. A formal system of permit-to-work must be exercised on site by the demolition contractor. Precautions should be taken to prevent fire or explosion caused by gas and vapour particularly when removing tanks or pipes which might have contained flammable liquid or gas.

4. All pipes and tanks should be certified gas-free by a competent person. A competent person in this respect is a person who has successfully completed a training program established and maintained in accordance with standard industry practices. This training program can be conducted by qualified industry personnel within a company or by a qualified commercial firm. In either case, the company contracting/hiring/utilizing the competent person will be responsible for the judgement of the competency of an individual. The qualification course should include a specific program of training skills to be developed;

a regular course of instruction; a means to evaluate the successful completion of the course; and a formal certification process to confirm that the individual is competent to perform the gas-freeing of an oil storage tank prior to demolition. The evaluation can consist of a written test; hands-on performance to pre-determined skill standards; or a combination of the two. The Standing Advisory Committee established by regulation 4 of the Building (Oil Storage Installations) Regulations may review the adequacy of the training.

Sludge and Chemical Waste

5. The type of sludge and chemical waste that will arise from the demolition work should be identified and arrangements made for its disposal. Disposal will have to comply with the Waste Disposal (Chemical Waste) (General) Regulations.

Discharge of Waste Water

6. Where tanks or pipes are to be emptied or removed, precautionary measures should be taken to avoid the spillage of any petroleum products which may cause contamination to the ground. Any contaminated materials such as absorbent or cleaning stuffs should be disposed of properly. The drainage system and the oil interceptors should be kept intact and maintained in a serviceable condition until all the tanks, pipes and sludge have been removed.

7. Except during discharge of effluent in accordance with the operating procedures of the oil interceptors, the seaboard valves on the oil interceptors should remain closed and locked at all times during demolition until all the tanks, pipes and sludge have been removed. Discharges of effluent from oil interceptors must comply with the conditions of any licence under the Water Pollution Control Ordinance governing the standard and quantity of effluent discharged from that oil storage installation.

Bunded Areas

8. As far as possible the demolition of floors and walls of the bunded area should not commence before all tanks and pipes spills have been removed. Where this is not possible adequate precautions must be taken to prevent the possibility of petroleum products escaping to the environment.

Programme of Work

9. When part of the oil storage installation will be in operation during demolition work, due safety consideration must be taken for the operating environment and the demolition work should be programmed accordingly. The agreed operation instructions should be complied with at all times.

Drainage

10. Precautions should be taken to avoid contaminated washing water or other liquids from entering the storm drainage system, either accidentally during heavy and violent rainstorms or deliberately as a result of washing down. A plan of the storm drains should be available on site at all times.

Extreme Weather Conditions

11. Consideration should be given to the possibility of extreme weather conditions occurring during demolition of the tanks, and suitable precautionary measures should be adopted.

Contamination Assessment Report

12. A contamination assessment report is required before the work commences. Guidelines on the preparation of a contamination assessment report are set out in Professional Persons Environmental Consultative Committee Practice Note 3/94. The report shall include the following :-

- (a) information on activities carried out on site including those in the past if there were changes;
- (b) an inventory of chemical/hazardous substances stored/used on site with the locations clearly shown on site diagrams and composition of hazardous substances precisely given;
- (c) details of manufacturing processes if there are any; and
- (d) soil sampling plan and analytical method that will be adopted.

13. The contamination assessment helps to identify the specific lots of soil which are contaminated and need treatment or special disposal, or which can be disposed of in the normal manner. Relevant remedial work will be required wherever necessary.

Soil Samples

14. After demolition of the above ground structures and facilities, tests on soil samples for hydrocarbons and lead content should be carried out as specified in the contamination assessment report.

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