

**GAS SAFETY (GASHOLDERS EXAMINATION)
REGULATION**

(Cap. 51 sub. leg. G)

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GAS SAFETY (GASHOLDERS EXAMINATION) REGULATION

(Cap. 51, section 8)

[21 June 1996]

1. Interpretation

In this Regulation, unless the context otherwise requires—

“competent person” (勝任人士), in relation to any duty to examine a gasholder under this Regulation, means a person who is competent to perform the duty by virtue of his practical and theoretical training and actual experience;

“dry-sealed gasholder” (乾封式儲氣鼓) means a gasholder other than a water-sealed gasholder;

“water-sealed gasholder” (水封式儲氣鼓) means a gasholder in which water is used to prevent gas escaping to the atmosphere between the lifts of the gasholder.

2. Monthly examination of gasholders

- (1) The owner of a gasholder shall cause it to be examined externally by a competent person—
 - (a) before it is first put into use; and
 - (b) after it is put into use, at least once in every month.
- (2) The owner of a dry-sealed gasholder shall submit a report in the form set out in Schedule 1 once every 3 months.
- (3) An examination under subsection (1)(a) shall be carried out in the presence of the Authority.

- (4) An examination under subsection (1), and any work carried out in connection herewith, shall be done in an efficient and workmanlike manner.
- (5) When, on an examination under this section, any defect in a gasholder is discovered, the owner thereof shall, as soon as practicable, cause a report in writing to be delivered to the Authority which shall contain a full description of the defect and of any work carried out in connection therewith.
- (6) Where such defect materially affects the safety of the gasholder the report shall be delivered to the Authority within 24 hours after the discovery of the defect.
- (7) The owner of a gasholder shall cause full and up to date records to be kept of all examinations and works carried out under this section and shall make such records available for inspection by the Authority.

3. Annual examination of gasholders

The owner of a gasholder shall—

- (a) cause to be carried out, in the presence of the Authority, an external examination of the gasholder not less than once every year; and
- (b) within 4 weeks after such examination, submit to the Authority a report thereon—
 - (i) in the case of a water-sealed gasholder, in the form set out in Schedule 2;
 - (ii) in the case of a dry-sealed gasholder, in the form set out in Schedule 3;
 - (iii) in any other case, in the approved form.

4. Internal examination of gasholders

- (1) Subject to section 5, the owner of a gasholder shall, as soon

as is practicable after the expiration of 20 years from the date of construction of the gasholder, and thereafter once in every period of 10 years, cause it to be thoroughly examined internally in order to ascertain the condition of its internal structure and of its surfaces and sealing arrangements.

- (2) Every examination under subsection (1) shall be carried out by a competent person in the presence of the Authority.
- (3) Within 4 weeks of every examination under subsection (1), the owner shall submit to the Authority a report thereon in the approved form.

5. Authority may direct the manner of examination

- (1) The Authority may permit a water-sealed gasholder to be examined in such a manner as he may direct in lieu of the thorough internal examination specified in section 4.
- (2) An examination under subsection (1) shall be carried out by a competent person in the presence of the Authority.
- (3) Within 4 weeks of an examination under subsection (1), the owner shall submit to the Authority a report thereon in the approved form.
- (4) Whenever a water-sealed gasholder is examined under subsection (1), the owner of the gasholder shall cause a thorough internal examination thereof as specified in section 4 to be carried out as soon as practicable thereafter.

6. Examination cutting samples

Where, under section 5(1), the Authority directs that a water-sealed gasholder be examined by cutting samples from the crown and sides of the holder, all samples so cut shall be marked in such a way as to make them readily identifiable and shall be kept available for inspection at any time.

7. Owner liable for expenses, etc.

- (1) The owner of a gasholder shall be liable for all expenses incurred in any examination, or work carried out as a consequence of such examination, of the gasholder under this Regulation.
- (2) Any such expenses shall be recoverable from the owner as a civil debt due to the Government.

8. Offences

The owner of a gasholder who contravenes any provisions of section 2, 3, 4 or 5 commits an offence and is liable on conviction to a fine at level 4.

9. Power to amend Schedules

The Secretary may, by notice in the Gazette, amend Schedule 1, 2 or 3.

10. *(Omitted as spent)*

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SCHEDULE 1

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SCHEDULE 1

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FORM

**QUARTERLY GASHOLDER INSPECTION AND MAINTENANCE
RECORD**

DRY-SEALED GASHOLDER

Name of owner:

Address:

Gasholder number:

Type of gasholder

(e.g. Wiggins, MAN, etc.):

Capacity:

Type of gas stored:

Operating pressure:

Built in (date):

by:

Last inspection date:

Stock in holder at time of inspection: Maximum

Minimum

Inspected by:

Date of inspection:

1. Condition of site
 - (a) Security
 - (b) Freedom from hazard or obstruction
2. Gasholder condition
 - (a) Seal condition
 - (i) Atmosphere above seal:

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(ii) Seal surface

—signs of folds, creases, surface cracks or drag down:

(b) Levels

Variations in level of piston/fender unit taken at each wire rope near top, midway and bottom:

(c) Clearances

(i) Variations in clearance between shell and piston/fender taken at each wire rope near top, midway and bottom:

(ii) Variations in clearance between shell and telescoping fender taken at each wire rope near top, midway and bottom:

(d) Condition of balance weight and rope:

(e) Lubrication of all locks and hinges:

(f) Check on bottom drain valves:

(g) Removal of condensate:

3. Any other apparent abnormality

SCHEDULE 2

[ss. 3 & 9]

FORM

ANNUAL GASHOLDER INSPECTION AND MAINTENANCE RECORD

WATER-SEALED GASHOLDER

Name of owner:

Gasholder number:

Type of gas stored:

Built in (date): by:

Type of gasholder (i.e. column, spiral or rope guided):

Capacity (exclusive of crown):

Lifts—Diameter and depth of, and pressure thrown by each lift:

Guide framing—Construction:

Crown—Rise:

Number and type of manholes:

Position and number of gas and air vents:

Sheets—Thickness of crown sheets:

Thickness of side sheets:

Cups and grips—Size and construction:

Top curb and crown framing:

Type of ladder:

Tank—Diameter:

Depth:

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Construction:

Position in relation to ground level:

Rest blocks:

Number:

Size:

Material used for construction of—

(a) Gasholder:

(b) Tank:

Inlet and outlet connections— Size:

Position of each:

Together or separated:

Date of inspection:

Inspection made by:

Authority:

1. Framing:

Condition of—

(a) Columns.

(b) Girders.

(c) Junction of girders and columns.

(d) Wind bracing.

(e) Ladder or staircase and handrail.

2. Lifts:

(a) Top Lift:

(i) External condition of crown sheets.

(ii) Number of patches on crown sheets.

(iii) Condition of ladder or staircase and handrail (including crown handrails).

(iv) Condition of carriages and rollers.

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- (v) State of roller lubrication.
 - (vi) Condition of crown paintwork.
 - (vii) External condition of side sheets.
 - (viii) Number of patches on side sheets.
 - (ix) Condition of side paintwork.
 - (x) Condition of cup and deposits and leakage, and effective depth of seal.
 - (xi) State of inflation at the time of inspection.
- (b) Second Lift:
- (i) External condition of side sheets.
 - (ii) Number of patches.
 - (iii) Condition of ladder or staircase and handrail.
 - (iv) External condition of cup and grip.
 - (v) Cup deposits and leakage and effective depth of seal.
 - (vi) Condition of carriages and rollers.
 - (vii) State of roller lubrication.
 - (viii) Condition of paintwork.
 - (ix) State of inflation at the time of inspection.
- (c) Third Lift:
- (i) External condition of side sheets.
 - (ii) Number of patches.
 - (iii) Condition of ladder or staircase and handrail.
 - (iv) External condition of cup and grip.
 - (v) Cup deposits and leakage and effective depth of seal.
 - (vi) Condition of carriages and rollers.
 - (vii) State of roller lubrication.
 - (viii) Condition of paintwork.
 - (ix) State of inflation at the time of inspection.

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- (d) Bottom Lift:
 - (i) External condition of side sheets.
 - (ii) Number of patches.
 - (iii) Condition of ladder or staircase and handrail.
 - (iv) External condition of grip.
 - (v) Condition of carriages and rollers.
 - (vi) State of roller lubrication.
 - (vii) Condition of bottom curb.
 - (viii) Condition of bottom carriages and rollers.
 - (ix) Condition of paintwork.

3. Tank:

- (a) External condition of side plates.
- (b) Condition at water level.
- (c) Condition of ground level.
- (d) Level of water-overflow.
- (e) Deposits and leakages.
- (f) Condition of carriages and rollers.
- (g) State of roller lubrication.
- (h) Condition of paintwork.
- (i) Condition of ladder or staircase, handrail and balcony.

4. Measurements:

- (a) Horizontal measurements from lift to lift at:
 - North point at top cup:
 - South point at top cup:
 - East point at top cup:
 - West point at top cup:
 - North point at second cup:
 - South point at second cup:

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- East point at second cup:
- West point at second cup:
- North point at third cup:
- South point at third cup:
- East point at third cup:
- West point at third cup:
- North point at tank top:
- South point at tank top:
- East point at tank top:
- West point at tank top:
- (b) Vertical measurements from top of grip to water level at:
 - North point at top cup:
 - South point at top cup:
 - East point at top cup:
 - West point at top cup:
 - North point at second cup:
 - South point at second cup:
 - East point at second cup:
 - West point at second cup:
 - North point at third cup:
 - South point at third cup:
 - East point at third cup:
 - West point at third cup:
 - North point at tank top:
 - South point at tank top:
 - East point at tank top:
 - West point at tank top:
- (c) Positions of rollers relative to guides on each lift.

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5. Pressure:

Unusual variations in pressure records:

6. Repairs and paintwork carried out since last annual inspection:

7. General observations:

SCHEDULE 3

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FORM

ANNUAL GASHOLDER INSPECTION AND MAINTENANCE RECORD

DRY-SEALED GASHOLDER

Name of owner:

Address:

Gasholder number:

Type of gasholder

(e.g. Wiggins, MAN, etc.):

Capacity:

Type of gas stored:

Operating pressure:

Built in (date):

by:

Last inspection date:

Stock in holder at time of inspection: Maximum

Minimum

Inspection by:

Date of inspection:

Authority:

1. General conditions

- (a) Off-site condition (within a region of 30 m from gasholders)
- (b) On-site condition (within a region of 6 m from gasholders or boundary of gasholder premises, whichever is the greater)
 - (i) Security:

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- (ii) Housekeeping:
- (iii) Sources of ignition:
- (iv) Electrical equipment:
- (v) Provision of
 - Warning notices:
 - Emergency instruction:
 - Fire fighting equipment:

2. Gasholder conditions

- (a) Bottom condition
 - (i) Foundation settlement with respect to East, South, West and North
 - (ii) Guard below levelling weight with respect to East, South, West and North
 - (iii) Earthing connections with respect to East, South, West and North
 - (iv) Footing with respect to East, South, West and North
- (b) Shell condition (External and/or Internal)
 - (i) Side plate:
 - (ii) Vents with mesh:
 - (iii) Access doors
 - Locking device:
 - Handhole:
 - (iv) External staircase
 - Handrails and toeboards:
 - (v) Levelling weights and guides:
 - (vi) Volume indicator:
 - (vii) Condition of drain valve:
- (c) Roof condition (External and/or Internal)
 - (i) Steel roof:
 - (ii) Ventilator type manways:

- (iii) Framing:
- (iv) Handrails and toeboards:
- (v) Sheaves
 - Support and rollers:
 - Lubrication:
 - Wear:
- (vi) Levelling weights
 - Wire ropes (10% of 8 times of wire diameter):
 - Well greased:
- (vii) Volume relief valve
 - Operable:
 - Tightness of seat:
- (viii) Concentricity:
- (ix) Plumb measurement:
- (d) Piston condition
 - (i) Atmosphere above piston:
 - (ii) Piston plating, framing, fender, walkway and handrail:
 - (iii) Piston ladder:
 - (iv) Weights on deck:
 - (v) Shell belt angle and piston seal bar:
 - (vi) Abutment plates
 - Spacing:
 - Alignment:
 - (vii) Rope anchorage:
- (e) Telescoping fender condition
 - (i) Fender, walkway and handrails:
 - (ii) Fender ladder:
 - (iii) Fender seal bars:

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- (iv) Piston engaged and disengaged T-fender:
- (f) Seal condition
 - (i) Atmosphere above seal:
 - (ii) Seal surface
 - signs of folds, creases, surface cracks or drag down:
 - (iii) Bolted connections:
 - (iv) Bottom of piston:
- (g) Levels
 - Variation in level of piston/fender unit taken at each wire rope near top, midway and bottom:
- (h) Clearances
 - (i) Variations in clearance between shell and piston/fender taken at each wire rope near top, midway and bottom:
 - (ii) Variations in clearance between shell and telescoping fender taken at each wire rope near top, midway and bottom:
- (i) Pipes and valves condition
 - (i) Inlet, outlet and drain pipes and fittings:
 - (ii) Inlet, outlet and drain valves:
 - Working condition:
 - Tightness:
- 3. Paintwork condition
- 4. Repairs and/or paintwork carried out since last inspection
- 5. General observation