

Esperance Power Station

ESPERANCE GAS DISTRIBUTION COMPANY PTY LTD (On behalf of Esperance Power Station Pty Ltd – operators of the Esperance gas distribution network)

To all concerned parties

NOTES FOR WORKING NEAR THE ESPERANCE GAS DISTRIBUTION SYSTEM MAINS

1 Introduction

- 1.1** The Gas Distribution System (GDS) is designed to carry gas at medium pressure (currently operating at 200 kPag). It is buried underground at a nominal depth of cover (DOC) of 750 mm but this DOC may vary in certain locations of the network. Warning signs are generally placed at intervals near the larger size mains to indicate its existence and warn third parties working in the area.
- 1.2** The mains are extruded all yellow polyethylene with diameters ranging from 40mm to 160mm. Where possible pipeline warning marker (yellow) tapes have been placed over the mains at approx 300mm below ground level in trenched locations. In addition, tracer wires have been strapped to the PE pipes for traceability.
- 1.3** Potential damage to the pipe and/or fittings may occur if works are carried out in the vicinity of the mains without knowing the existence and/or exact location of the mains. Esperance Gas Distribution Company Pty Ltd (EGDC) pays special attention to drilling, piling, blasting or any high impact works, excavation and tunnelling works and construction of structures near or over the mains.
- 1.4** Any party who intends to carry out construction activities in the vicinity of the GDS shall notify and collaborate with EGDC to implement measures to protect the mains from all possible damage.

2 Statutory and Safety Requirement

- 2.1** Activities associated with working in the vicinity of gas pipelines may have impact on the safety of the general public, EGDC staff and contractors, and may affect the local environment.
- 2.2** Third parties intending to carry out earthworks in the vicinity of the GDS mains are required to comply with the requirements of EGDC, ensure precautionary measures are taken to prevent damage to the gas mains or facilities and provide access to EGDC for inspection or taking necessary protective measures (refer Utility Providers Code of Practice and Worksafe WA Regulations 3.2.1).
- 2.3** Contractors must carry out suitable and adequate risk assessments prior to the commencement of work to ensure that all such issues are properly considered and risks mitigated.

3 Requirements on Third Parties working near the GDS mains

3.1 Pre-work consultation with EGDC

- a) The works owner and contractor must inform EGDC in advance of their intention to work within a 15m vicinity of a GDS main. Such works include excavation, piling, earthwork levelling, bore logging, trial holes, blasting, tunnelling or any earth works. The proposed work with construction drawings and method statements must be given to EGDC to evaluate the impact of the works on the pipeline. It enables EGDC to advise on appropriate precautionary measures to be taken. This notification normally takes place through the Dial Before You Dig system
- b) It is recommended that they incorporate the pipeline alignment into their construction drawings. Please note that the information in the as-built drawings should be treated as confidential. Do not disclose or forward them to other unauthorised parties.
- c) No permanent structures shall be designed and constructed above the GDS mains. However, surface road over the mains without reducing the mains cover may be acceptable, subject to EGDC's concurrence.

3.2 Precautionary Measures during Works

- a) The works owner and contractor must take all necessary precautions to prevent any damages to the GDS during the construction stage. They must inform EGDC before carrying out any excavation works near the mains. It is important to **report all damages** to the gas mains to EGDC on 1800 010 272. Unreported damage endangers public safety and is a prosecutable offence.
- b) Trial holes to prove the location of the GDS mains are not allowed. However, if this is deemed necessary, it must only be done in the presence of EGDC officer. If any **excavation is within 3m of a pipeline of diameter 110mm and greater**, a competent surveyor must be engaged to peg the pipeline alignment and interpret the pipeline depth from the pipeline as-built drawings. The contractor's competent personnel should supervise the excavation, monitoring closely the pipeline depth based on the surveyor's interpretation. Only hand excavation is allowed within 0.5m of the pipeline.
- c) Gas pipeline diameters 40mm and smaller will not require EGDC's supervision but they must be located by a EGDC site representative prior to commencement of works. The works owner and contractor must also obtain from EGDC the gas mains alignment and nominal depth of cover information. It is strongly recommended that the location and depth of the mains be established through hand digging and then pegged or visually located.
- d) Under no circumstance should the GDS mains be exposed without written consent of EGDC. If a main is exposed, the owner/contractor must take the necessary measures to protect the main from any physical impact that may cause damage to the main to the satisfaction of EGDC.
- e) Do not shift or remove warning markers/signs indicating the existence of the GDS at site without EGDC's approval. The contractor must protect them from being damaged or tampered with. Where necessary, additional temporary warning markers should be installed to warn others of the mains presence.
- f) For **blasting works**, piling of any works that cause ground vibration, the peak particle velocity (PPV) of ground shock generated by the blast should be limited to 15mm/s measured at the mains.
- g) **Static roller compaction** only shall be used over the gas pipelines. No vibrating-roller (i.e. vibratory compactor) shall come within 15 metres of gas mains.
- h) For **HDD and boring excavation** works, ground consolidation could occur due to ground water losses resulting in surface settlement. This settlement can potentially induce excessive stress on the pipeline. The contractor should conduct a risk assessment to assess the impact of tunnelling on the surrounding area. Depending on the findings of the assessment, measures must be taken to relieve the mains from the stress.
- i) For **crossing and parallel laying** of services to the GDS mains, Table 1 shows the required separation distance between the mains and other services or structures. It should be noted that other authorities may have stricter or additional requirements on minimum separation distance between proposed building / structure and the mains than what is stated here.

- j) For major works that span over a long period of time, the owner and contractor must hold regular meetings to update EGDC on the progress and any changes to their works.
- k) For any new development surrounding the GDS mains, the developer must inform the property owner on the location of the mains within their premises and draw up measures to prevent any possible damage to it. Mains within a fenced compound must be accessible to EGDC for patrolling and any maintenance works as and when required.

3.3 Repair of damaged pipe

In the event the pipe is damaged by the third party works, EGDC will undertake the necessary repair works. All costs of such repairs shall be borne by the third party responsible for the damage.

3.4 Emergency Works

When urgent works resulting out of emergencies have to be done near the mains, the owner and contractor must **call EGDC** at (08) 9072 1422 (normal business hours) or the 24-hour hotline at 1800 010 272. EGDC officers will respond to verify the location of the mains and monitor excavation works.

4 Emergency Contact

In the event of any gas leak immediately notify EGDC on the 24-hour emergency number 1800 010 272. If the GDS mains are damaged, even slightly, and even if no gas leak has occurred, then the following precautions must be taken immediately:

- a) Shut down all plant and machinery and extinguish any potential sources of ignition.
- b) Evacuate all personnel from the vicinity of the pipeline.
- c) Notify EGDC on the 24 hour emergency contact number **1800 010 272**.
- d) Notify the EGDC responsible person or his office immediately using the contact telephone number provided.
- e) Ensure no one approaches the gas mains.
- f) Do not try to stop any leaking gas.

Table 2 shows the recommended minimum evacuation distances for mains leaks and ruptures in the GDS.

5 Dial Before You Dig

Land owners and third parties wishing to conduct works within any parcel of land are advised to contact Dial Before You Dig (DBYD) to identify any services within the vicinity. DBYD will require information pertaining to:

- a) Location of the works
- b) Type of works to be carried out; and
- c) Any plans or diagrams of the works

This information will be distributed by DBYD to all relevant agencies to provide the necessary information for any party wishing to conduct works within the vicinity of any services, DBYD can be contacted by dialling 1100, faxing 300 652 077 or by visiting www.dialbeforeyoudig.com.au

6 Enquiries

The above requirements are only stated in general terms. The concerned party must consult EGDC on all works near the GDS. EGDC reserves the right to alter any stated requirements or impose additional requirements that are necessary depending on site conditions and type of work. Refer all enquiries and correspondences on works near the Gas Distribution System to:

Esperance Gas Distribution Company Pty Ltd
 22b Dutton Arcade, 91 Dempster St, ESPERANCE WA 6450
 P.O. Box 2392
 Tel: (08) 9072 1422
 Fax: (08) 9072 1433

Table 1: Recommended Minimum Separation Distance between GDS mains and Other Services/Structures

S/N	Service / Structure	Minimum separation distance
1.	Hand held Vibrating Plate or Wacker Packer compactor	0.5m sand fill cover to top of pipe
2.	Jackhammers / pneumatic breakers	Vibration not to exceed 2mm/sec PPV at pipe location
3.	Boring equipment (HDD)	Not within 1.5m of actual location. Hand digging (pothole) required. Observation pit required.
4.	Mechanical excavators, boring and tree removal	Not within 1.0m of actual location. Hand digging (pothole) required
5.	Vibrating roller compaction	No vibrating roller shall come within 15m of pipe
6.	Heavy vehicle on un-bituminised surface	Maximum load per tyre not to exceed 3.25 tonne and pipe depth of cover not less than 750mm. 8mm plate required 1m on either side of pipe crossing.
7.	Formed Drain / Earth Drain	1.0m / 1.2m
8.	Minor Drain	0.5m
9.	Control Blasting	10m and PPV not more than 15mm/s unless prior written approval given by EGDC
10.	Water Pipe: less than 700mm diameter	0.3m
11.	Water Pipe: typically, 700mm diameter	0.6m
12.	Water Pipe: Ultra large diameter	Clearance distance 1.0m or more depending on size of pipe and construction method.
13.	Minor Sewer Pipe	0.3m
14.	Sewer Trunk pipe	0.6m or more.
15.	Sewer Pipe: Ultra Large diameter	Clearance distance 1.0m or more depending on size of pipe and construction method.
16.	Electric Cables: Low Voltage	0.6m
17.	Electric Cables: High Voltage	1.0m
18.	Telecom cables	0.3m
19.	Other gas pipes	0.3m for LP pipe and 0.5m for large HP pipe.
20.	Landscaping trees	2.3 m
21.	Posts / foundations for light, signs etc	1.5m

Table 2: Recommended Minimum Evacuation Distances for Natural Gas Pipeline Leaks and Ruptures for GDS

Pressure	Up to Pipe DN 40	Pipe DN 110	Pipe DN 160
200 kPag	14 m	36 m	52 m

Note: In the event of leaks and ruptures, call 1800 010 272 and extinguish all sources of ignition and keep the area clear of all persons. Any attempt by third parties to repair damaged gas mains or services may result in prosecution under the Energy Operators (Powers) Act 1979.

Users are advised that the distances shown in Tables 1 and 2 are considered to be 'general information' only and are not intended to replace a site specific risk analysis.

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