



**ESPERANCE GAS DISTRIBUTION COMPANY PTY LTD
(On behalf of Esperance Pipeline Company Pty Ltd – operators of the Kambalda to Esperance Gas Pipeline)**

To all concerned parties

NOTES FOR WORKING NEAR THE KAMBALDA TO ESPERANCE GAS PIPELINE

1 Introduction

- 1.1 The Kambalda to Esperance Gas Pipeline (KEGP) is designed to carry gas at high pressure. It is buried underground with a notional depth of cover of approximately 1200 mm. Warning signs are placed at all changes in direction and at approximately 100m and 250m apart in built-up areas and rural areas respectively along the pipeline route, to indicate its existence and warn third parties working in the area. Aerial markers are also installed at 10 km intervals.
- 1.2 The pipeline is DN150 diameter carbon steel and coated in extruded polyethylene yellow jacket. Pipeline warning marker (yellow) tapes have also been placed over the pipeline at approximately 300mm below ground level in trenched locations.
- 1.3 Potential damage to the pipe and/or fitting may occur if works are carried out in vicinity of the pipeline without knowing the existence and/or exact location of the pipeline. 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 pipeline easement.
- 1.4 Any party who intend to carry out construction activities in the vicinity of the KEGP easement shall notify and collaborate with EGDC to implement measures to protect the pipeline from all possible damages.

2 Statutory and Safety Requirement

- 2.1 Activities associated with working in the vicinity of gas pipelines may have impact on the Esperance power station and gas distribution system, safety of the general public, EGDC staff and contractors, and may affect the local environment.
- 2.2 Section 65 of the Petroleum Pipelines Act provides heavy penalties for damaging of pipeline assets.
- 2.3 Third parties intending to carry out earthworks in the vicinity of the KEGP are required to comply with the requirements of EGDC, ensure precautionary measures are taken to prevent damage to the gas pipeline or facility and provide access to EGDC for inspection or taking necessary protective measures (Energy Operators [Powers] Act).
- 2.4 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.
- 2.5 Regardless of whether the works owner and contractor believe they know how deep the pipeline may be buried they are still required to contact EGDC and Dial-Before-You-Dig service to ensure the pipeline is located accurately, so that the work can be carried out safely.

3 KEGP Easement

- 3.1 The KEGP easement is typically the strip of land that extends either side of the pipeline and secures rights of entry and access for repairing, maintaining or replacing the pipeline as necessary. The easement may vary along the length of the pipeline and may be as wide as 20 metres.

- 3.2 The easements shall not be shared longitudinally with other utilities.
- 3.3 KEGP easements have warning signs at regular intervals along the pipeline route; however these signs do not mark the exact location of the buried pipe.
- 3.4 Where approved by EGDC, third parties may excavate with a powered mechanical excavator no closer than 3 metres to the KEGP and with hand held power tool no closer than 1.5 metres. Any fitting, attachment or connecting pipework on the KEGP must be exposed by hand. All other excavation shall be by hand.

4 Requirements on Third Parties working near the KEGP easement

4.1 Pre-work consultation with EGDC

- a) The works owner and contractor must inform EGDC at least 72 hours in advance of their intention to work within 30m vicinity of the KEGP. Such works include excavation, piling, earthwork levelling, bore logging, trial holes, blasting, tunnelling or any earth works, This proposed work with construction drawings and method statements must be given to EGDC to evaluate the impact of the works on the pipeline easement. It enables EGDC to advice on appropriate precautionary measures to be taken.
- b) The works owner and contractor must obtain the as-built drawings of the KEGP from EGDC. They are required to incorporate the pipeline alignment geo-coordinates 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) Work must not go ahead until written consent has been given by EGDC.
- d) No permanent structures shall be designed and constructed above the KEGP easement. However, surface road over the pipeline without reducing the pipeline cover may be acceptable, subject to EGDC's concurrence.

4.2 Precautionary Measures during Works

- a) EGDC representative must be present during any construction or excavation activities.
- b) The works owner and contractor must take all necessary precautions to prevent any damages to the KEGP during the construction stage. They must inform EGDC before carrying out any excavation works near the pipeline easement. It is important to **report all damages** to the gas pipeline to EGDC on 1800 010 272. Unreported damage endangers public safety and is a prosecutable offence.
- c) Trial holes to prove the location of the KEGP pipeline must only be done in the presence of a EGDC site representative. If any **excavation is within 3m of the pipeline**, 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 in the presence of a EGDC site representative, monitoring closely the pipeline depth based on the surveyor's interpretation.
- d) Within 1 metre of the pipeline, the works owner and contractor must provide at their costs, all hand digging work under the supervision of a EGDC site representative. In order to avoid possible damage to the pipeline, no mechanical / machinery digging is allowed within 1.5 metre of the pipeline, unless under the specific instruction of a EGDC site representative.
- e) Mechanical excavators must not be sited or moved above the pipeline unless written authority has been given by EGDC
- f) EGDC approval is required for all underground or soil moving works planned near the KEGP easement. Depending on the activity, the proposed work may also require a written work plan
- g) EGDC must be notified at least seventy two (72) hours prior to work commencing on or near the pipeline easement. An EGDC representative must also be on site prior to the work commencing. It is strongly recommended that location of the pipeline be pegged or suitably visually located
- h) Under no circumstance should the KEGP pipeline be exposed without written consent of EGDC. If a pipeline is exposed, the owner/contractor must take the necessary measures to protect the pipeline from any physical impact that may cause damage to the pipeline to the satisfaction of EGDC.
- i) Do not shift or remove pipeline warning markers/signs indicating the existence of the KEGP 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 pipeline's presence.

- j) 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 2mm/s as measured at the pipeline by an ISO 9000 quality accredited monitoring company engaged by the proponent at the proponent's cost. The vibration results shall be provided to EGDC within the next working day.
- k) **Static roller compaction** only shall be used over the gas pipeline.
- l) No **vibrating-roller** (i.e. vibratory compactor) shall come within 15 metres of the gas pipeline.
- m) 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 pipeline from the stress.
- n) For **crossing and parallel laying** of services to the KEGP pipeline, Table 1 shows the required separation distance between the KEGP pipeline 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 KEGP than what is stated here.
- o) 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.
- p) For any new development encroaching on the KEGP pipeline easement, the developer must inform the property owner on the location of the pipeline easement within their premises and draw up measures to prevent any possible damage to it. KEGP pipeline within a fenced compound must be accessible to EGDC for patrolling and any maintenance works as and when required.

4.3 In Proximity to the KEGP in Major Roads

- a) Removal of the bituminous or concrete road surface layer by mechanical means is permitted to depth of 0.3 metres, although the use of chain trenchers to do this shall not be permitted within 3 metres of the pipeline. A EGDC site representative will monitor this work.
- b) Where the bituminous or concrete road surface layer extends below 0.3 metres deep it should only be removed by handheld power assisted tools under the supervision of EGDC site representative. In exceptional circumstances and following a risk assessment, these conditions may be relaxed by EGDC.

4.4 Road and heavy vehicle/equipment across pipeline

- a) Where approved by EGDC, roads shall cross pipelines at or near 90 degrees as practical. The entity constructing the road must pay for any measures required by EGDC to protect its pipeline. Such protective measures shall be designed and/or approved by EGDC.
- b) EGDC may require heavy vehicle/equipment operators to install steel mats, dirt pads or other approved protective materials to adequately protect KEGP pipelines from potential damage. All proposed road crossings of KEGP buried facilities must be evaluated by EGDC.

4.5 Repair of damage pipe / coating

In the event the pipeline and/or its coating are 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.

4.6 Emergency Works

When urgent works resulting out of emergencies have to be done near the KEGP, 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 pipeline and monitor excavation works.

5 Emergency Contact

In the event of any gas leak immediately notify EGDC on the 24-hour emergency number 1800 010 272. If the KEGP pipeline is 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) Ensure no one approaches the gas pipeline.
- e) Do not try to stop any leaking gas.

Table 2 shows the recommended minimum evacuation distances for pipeline leaks and ruptures in the KEGP.

6 Dial Before You Dig

The guidelines contained in this document are no replacement for the obligation to call the Dial Before You Dig (DBYD) number shown below. Land owners and third parties wishing to conduct works within any parcel of land are advised to contact 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

7 Enquiries

The above requirements are only stated in general. The concerned party must consult EGDC on all works near the KEGP. 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 KEGP to:

WorleyParsons Asset Management Pty Ltd
22b Dutton Arcade 91 Dempster St ESPERANCE WA 6450
P.O. Box 2392
Tel: (08) 9072 1422
Fax: (08) 9072 1433

As agent for and on behalf of Esperance Pipeline Company Pty Ltd

Asset Services Operations Manager
WorleyParsons Asset Management Pty Ltd

Table 1: Recommended Minimum Separation Distance between KEGP pipeline 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
3.	Boring / directional drilling equipment	Not within 2.0m of actual location. Hand digging (pothole) and observation pit required.
4.	Mechanical excavators, boring and tree removal	Not within 1.0m of actual location. Hand digging (pothole) required
5.	Static roller compaction	1.0 m
6.	Vibrating roller	Not within 15m of pipe
7.	Control blasting, piling-driving, sheet-piling, vibro-piling, hammer-piling, pile-augering	Within 100m of KEGP requires EGDC approval and not to exceed 2mm/s PPV (measured at pipeline).
8.	Minor drain	0.8m
9.	Formed drain / Earth drain	1.5m
10.	Water pipe: less than 300mm diameter	0.6m
11.	Water pipe: equal to or more than 300mm diameter	1.2m
12.	Water pipe: ultra large diameter	Clearance distance 1.2m or more depending on size of pipe and construction method.
13.	Minor sewer pipe	0.6m
14.	Sewer trunk pipe	1.2m or more.
15.	Sewer pipe: ultra large diameter	Clearance distance 1.2m or more depending on size of pipe and construction method.
16.	Electric cables: low voltage	0.6m
17.	Electric cables: high voltage	1.2m
18.	Telecom cables	0.6m
19.	Non-metallic gas pipes	0.6m
20.	Metallic gas pipes	1.0m (CP bonding may be required)
21.	Trees and shrubs less than 3m	2.3m (vegetation should not obstruct pipeline signage)
22.	Trees and shrubs greater than 3m	7.5m on either side of pipeline
23.	Posts / foundations for light, signs etc	2.0m
24.	Buildings and other structures	10.0m

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

Pressure (MPag)	4.0	4.5	5.0
Distance (m)	73	79	83

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 pipelines may result in prosecution under the Energy Operators (Powers) Act 1979. Users are advised that the separation distances shown in Tables 1 and 2 are considered to be ‘general information’ only and are not intended to replace a site specific risk situation.

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