

Simulated natural gas plant Mandurah

State Energy Commission Western Australia

**Report and recommendation
of the
Environmental Protection Authority**

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Summary and recommendation

The Environmental Protection Authority (EPA) has assessed the proposal, described in a Consultative Environmental Review (CER) by the State Energy Commission of Western Australia (SECWA) to provide reticulated gas to the public in the Mandurah area using standard air/gas mixing and storage facilities at its site in Gordon Road, Mandurah.

During its assessment, EPA examined the public risk of the proposal and concluded that the total risks and hazards fall well within the "individual risk level" as defined in the Authority's published guidelines and are therefore acceptable to the Authority.

The Authority has assessed the proposal and found it to be environmentally acceptable.

Recommendation

The Environmental Protection Authority concludes that the proposal to operate a natural gas and air mixing facility and associated storage facility at Gordon Road, Mandurah, contained in the Consultative Environmental Review, is environmentally acceptable, and recommends that the proposal could proceed as described.

1. Introduction

In June 1990 the State Energy Commission of Western Australia (SECWA) submitted to EPA a Consultative Environmental Review (CER) describing its proposal to operate a Simulated Natural Gas facility at Gordon Road, Mandurah. The facility would mix natural gas and air and store the simulated natural gas product for supply to the Mandurah area. In its preparation of the CER the EPA advised SECWA that the only issue needing to be addressed was that of risks and hazards.

In its CER, SECWA specifically addressed the issue of risks and hazards of the proposal.

2. Description of the proposal

SECWA proposes to provide reticulated gas in the Mandurah area using a standard natural gas/air mixing and storage facility at its site in Gordon Road, Mandurah (Figure 1).

The plant will provide an initial gas reticulation system to allow a customer base to be established. Further planning is to provide a connection to the Perth-Bunbury natural gas pipeline when the customer base is large enough to warrant the capital investment.

The plant is similar to one operating in Albany manufacturing tempered liquid petroleum gas (TLP) and a copy of another which has operated in Bunbury for many years.

Liquid propane will be unloaded from LPG road tankers via unloading pump and underground transfer pipeworks to two 45,000 litre storage tanks. Road movements are projected to be a maximum of one tanker per month.

Propane will be drawn from storage and mixed with equal volumes of air and stored in two 14,000 litre buffer tanks. The simulated natural product (SNG) will be distributed as required by customers.

3. Potential environmental impacts identified in CER

The only potential environmental impact associated with the proposal is public risk and this issue is addressed in full in the CER. In its preparation of the proposal, the proponent had a risk study carried out by an independent industrial risk consultant, Industrial Risk Management. The consultant's report showed no significant increase in public risk resulting from this proposal, and that the risk level falls well within the EPA's guideline for acceptable risk. The guideline states that a risk level of less than 1 fatality per million per year in residential zones is an acceptable risk from new industrial proposals. Normally, this risk level is described on a map using a 10^{-6} risk level contour around the plant under review. In this case, however, the plant was sufficiently safe so as to allow this contour to approximate a dot within the plant boundary. Consequently, the only risk contour presented was for a 10^{-7} level of risk (Figure 1).

4. Environmental assessment and conclusion

In its assessment of the CER, the EPA considered the proposal in the context of risk to public safety. The Authority found that there would be no significant public risk associated with operating the plant and notes the satisfactory performance of similar plants owned and operated by the SECWA in the State. The Authority considers the project to be environmentally acceptable and recommends that it could proceed.

Recommendation

The Environmental Protection Authority concludes that the proposal to operate a natural gas and air mixing facility and associated storage facility at Gordon Road, Mandurah, contained in the Consultative Environmental Review, is environmentally acceptable, and recommends that the proposal could proceed as described.

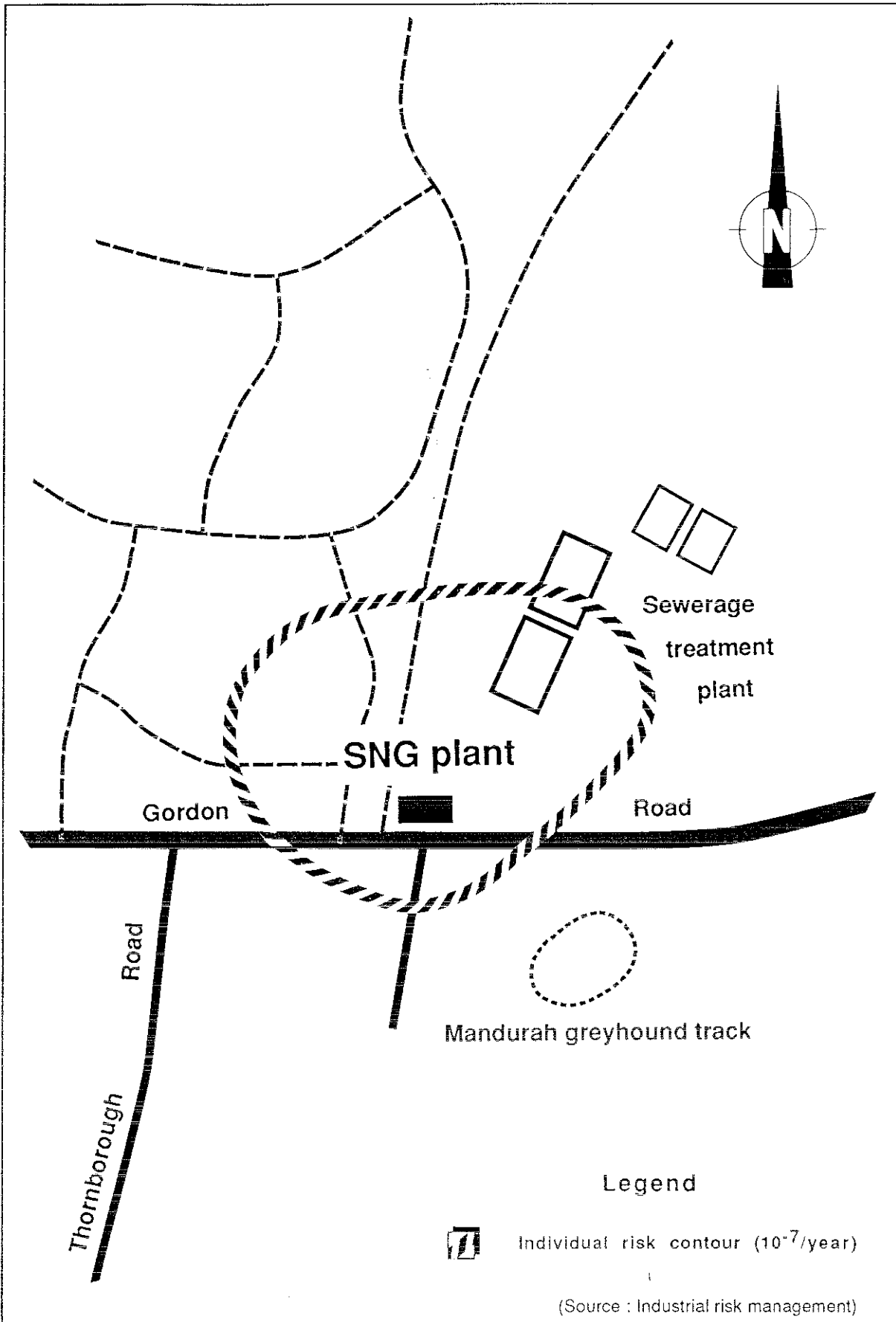


Figure 1: Location of proposed simulated natural gas plant and associated risk contour

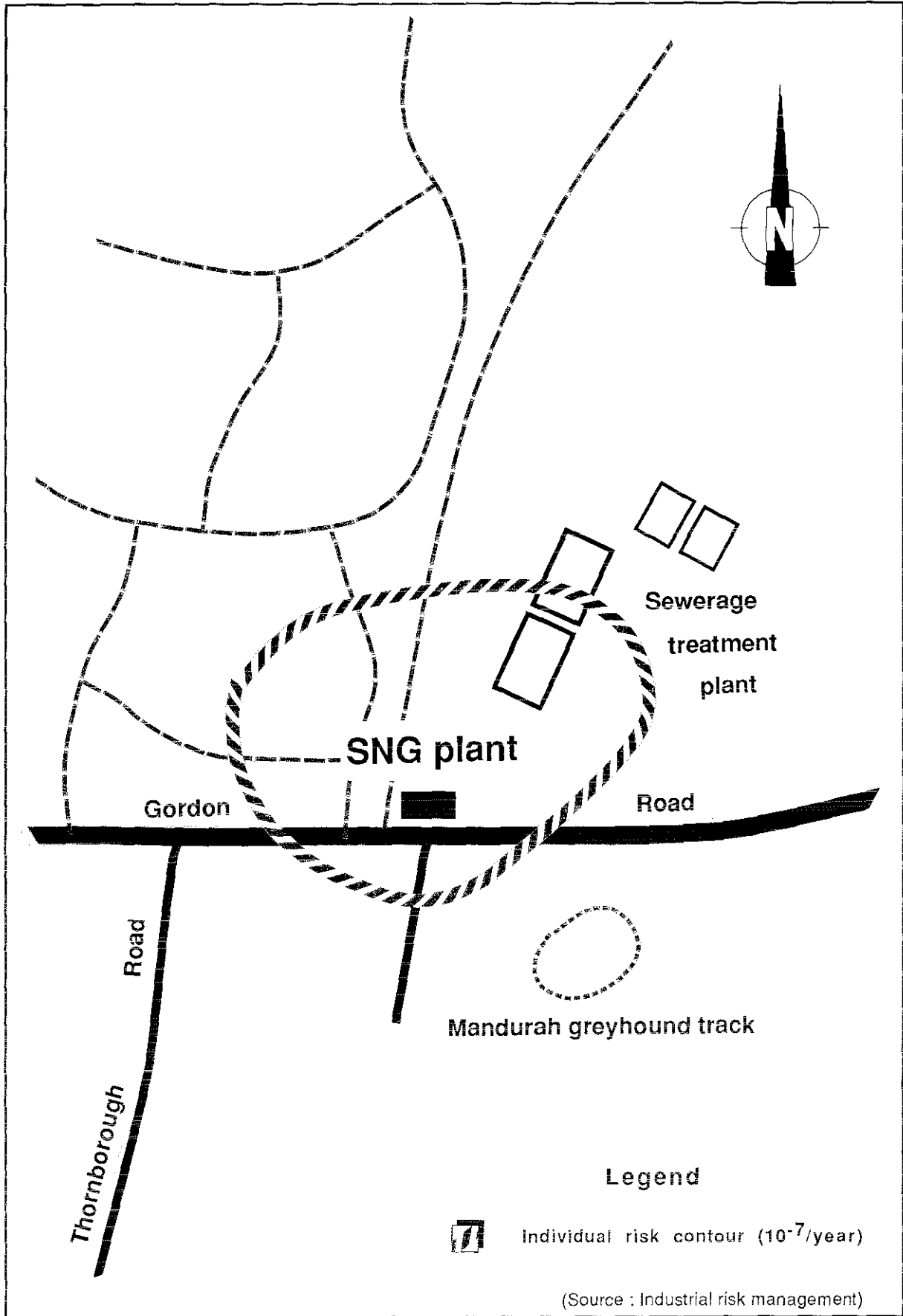


Figure 1: Location of proposed simulated natural gas plant and associated risk contour