



**SafeWork NSW**

**SafeWork NSW** | Hazardous Chemical Facilities & Safety Management Audits  
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10 January 2019

Ms Rose-Anne Hawkeswood  
Senior Environmental Assessment Officer  
Resource & Energy Assessments  
Department of Planning and Environment  
GPO Box 39  
Sydney NSW 2001

Dear Ms Hawkeswood,

**Port Kembla Gas Terminal EIS Exhibition - SafeWork NSW comment**

SafeWork NSW comments and recommended conditions on the Port Kembla Gas Terminal, as emailed to you on 14 December 2018 are attached.

Please forward the applicant's responses to us for review. Final recommended conditions will be provided after review of the applicant's responses.

Should you have any queries, please contact Sohan Fernando on 8867 2747 or [sohan.fernando@safework.nsw.gov.au](mailto:sohan.fernando@safework.nsw.gov.au).

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'M. Wright'.

Michael Wright  
Manager  
Major Hazard Facilities

# Port Kembla Gas terminal

Additional information and clarifications requested by The Major Hazard Facilities Team of Safework NSW on the EIS/PHA. – 14/12/2018.

1. Section 10.1 of the EIS volume 1 states that the Safety case would provide detailed assessment of the safety risks, emergency planning and management systems. The security arrangements must also be included in the Safety case as required under clause 561 (2) (e) of the Work Health & Safety Regulation 2017.
2. Although the EIS/PHA do not appear to have information relating to the Mercaptan (Odourant) system, the draft/preliminary P&IDs provided on request show the Odourant system. Were the flammable and other hazardous properties of the odourant taken into consideration in the PHA risk evaluation?. Clarification required.
3. Has the possibility of a cold vapour cloud reaching the fire water pumphouse (ignition source) been taken into account in the PHA?
4. Table 6-5 of the PHA shows the pressure in the pipeline as 12,000 kPag. The operating pressure for the Eastern Gas Pipeline(EGP) is stated in the public domain as 3000 to 14,000 kPa in one and 3000 to 16,550kPa in another. Are the FSRU and wharf-side pumps/compressors rated to provide the necessary pressure?
5. Appendix D, clause 6.1 refers to the use of DNV GL Phast Risk ver 6.7. Since there are later versions of Phast Risk, e.g. ver 8.11, the applicant should justify use of an older version and comment on the level of accuracy in the results, particularly in relation to the limitations and assumptions identified in clause 6.1.1. e.g. would a more recent version have eliminated the need for the assumption at dot point 3?
6. Appendix D, clause 5.5.5 refers to leaks from an LNG transfer hose. The applicant should provide justification for the conclusion that the *localised overpressure is not considered severe enough*..... The provision of a water curtain is noted.
7. Ref Appendix D, clause 6.4, in the rupture case, has the failure rate for the gas/fire detection/ESD system been evaluated and included in the risk calculation? The applicant should state the failure rates used /assigned and the source or basis for the value/s used.
8. Re the assumptions listed at clause 7.2.1 of appendix D, Dot point 4 refers to jet fires and flash fires in the cargo machinery room. Has the scenario where a jet fire impinging on the insulation of an LNG storage or other area resulting in an escalation of the event been considered?
9. Clause 7.2.2 states that the number of times the MLAs are connected was assumed as once per year. Has this assumption been validated against what is used in other FSRU risk assessments?
10. Has the scenario where the breakaway mechanism on the MLA fails to operate on demand, been taken into consideration in the risk evaluation?
11. Clause 5.1.2 of Appendix D refers to Glycol. The P&IDs indicate that Glycol/water mix is used in the regassification heat exchangers. The EIS/PHA should describe the operation of the glycol/water system. E.g. is the glycol/water mix heated only by the sea water, or is there an additional heating system? See question 12 below.

12. The preliminary FSRU P&IDs refer to Steam in the regasification system. EIS volume 1 refers to a regas boiler – FSRU Engine room, in table 17-6. Please clarify.
13. Clause 10.4.2 of the EIS Volume 1 refers to concrete slabs above the pipeline where necessary. Need clarification of where concrete slabs will not be installed and alternate control measures.
14. Appendix B, Hazard register, of the PHA has identified Transfer Hose failure (item 22) under Node 1, LNGC berthing and unloading. Given that the hoses will be conveying liquid, has the possible pressure surge in the event of the sudden valve closure or pump trip been taken into account in the PHA?
15. Would the on board and wharf-side operational equipment be controlled from a single control room or otherwise? Clarification required.
16. Table 10-1 of the PHA concludes that the risk at the nearest identified active open spaces exceeds the HIPAP criterion. The relevant heat radiation and explosion overpressure isopleth diagrams should be provided. Additional fire safety measures should also be identified as far as is reasonably practicable to address the risk to these spaces.
17. The FSRU drawings refer to the flag being Marshall Islands. Earlier indication was the Singapore Flag. Please clarify.

### **Conditions likely to be suggested**

Should the Department determine to approve the proposal, Safework NSW is likely to suggest the following conditions. These may vary depending on the responses to the above queries.

1. Prior to completion of the detailed design of the Major Hazard Facility, the proponent must consult with the Major Hazard Facilities Team of SWNSW with regard to the requirements for the preparation of a Safety Case under the WHS legislation and the safety related controls that should be included in the final design.
  2. Prior to completion of the detailed design of the facility, the proponent must consult with the Terrorism Protection Unit and the Major Hazard Facilities Unit of the Counter Terrorism and Special Tactics Command with the NSW Police Force in relation to the ongoing security of the facility. The proponent must ensure that regard is taken of any advice received from the Terrorism Protection Unit and the Major Hazard Facilities Unit of the Counter Terrorism and Special Tactics Command with the NSW Police Force.
  3. Prior to completion of the design of the fire protection and response systems, the proponent must consult with the NSW Fire & Rescue officer attached to the Major Hazard Facilities Team of SWNSW with regard to fire and emergency response related matters that are to be included in the Fire Safety Study and the
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Emergency Plan that are to be prepared under conditions XXX and YYY of this consent. Matters to be addressed will include, but not be limited to:

- a. the effectiveness of control measures in mitigating the risks associated with major incidents on site;
  - b. Isopleth diagrams including radiant heat flux and overpressure distances;
  - c. The effectiveness of the proposed Safety Management System(SMS) and the Computerised Maintenance Management System (CMMS) in ensuring the ongoing integrity of the systems and controls;
  - d. Outcome of the review of the Port Kembla firefighting service in relation to Berth firefighting capacity and Fire Fighting Tugs (FFT).
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