



**GAS IMPORT JETTY AND PIPELINE PROJECT
ENVIRONMENT EFFECTS STATEMENT
INQUIRY AND ADVISORY COMMITTEE**

TECHNICAL NOTE

TECHNICAL NOTE NUMBER:	TN 052
DATE:	4 November 2020
LOCATION:	Gas Import Jetty Works
EES/MAP BOOK REFERENCE:	Technical Report K - Safety, Hazard and Risk assessment
SUBJECT:	Response to RFIs 106, 107 and 108 – Section 12.3 Cumulative impacts from other industrial uses
SUMMARY	Responses relate to subsection: Cumulative impacts from other industrial uses
REQUEST:	This technical note has been prepared in response to the Request for Further Information 106, 107 and 108 provided to the proponents by the Crib Point Inquiry and Advisory Committee dated 16 September 2020.

NOTE:

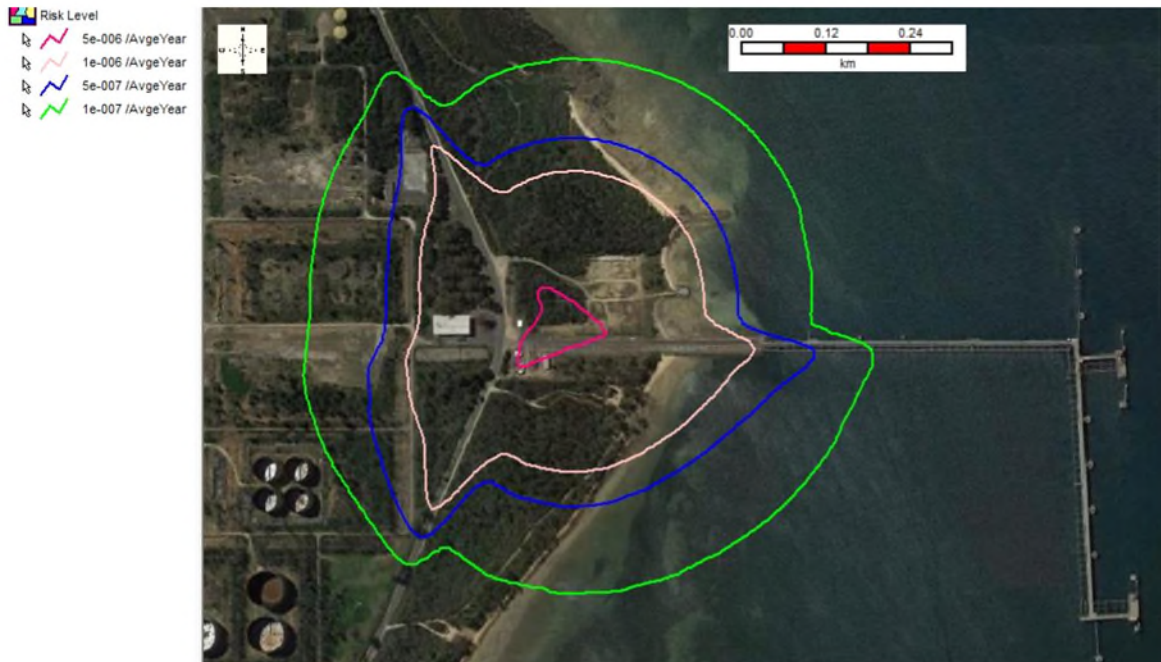
[RFI 106] - Provide location specific individual risk (LSIR) contours for fatality and injury, displaying cumulative risks with tankers at Berth 1 and CPRF to inform of cumulative impacts of other risks that could influence the fatality and injury contours.

1. Figure 13-4 and Figure 13-5 in Appendix C Preliminary QRA Results – GIJ Works in EES Technical Report K: *Safety, hazard and risk assessments* show the cumulative impacts of the Gas Import Jetty Works and the Crib Point Receiving Facility, including equipment located on the Crib Point Jetty, Crib Point Receiving Facility and United Petroleum vessel unloading operations at Berth 1 including the onshore pumps.
2. The QRA includes Injury Risk contours for incident heat flux greater than 4.7kW/m² and explosion overpressure greater than 7kPa where the frequency is higher than 50 chances in a million years.
3. The QRA for the Gas Import Jetty Works (Document 128) provides LSIR contours for the following scenarios involving different components of the works:
 - (a) LSIR for Gas Import Jetty and Pipeline Project, covering the FSRU, jetty infrastructure, United Petroleum activities and the CPRF;
 - (b) LSIR for Jetty Infrastructure and FSRU;
 - (c) LSIR for FSRU, including ship to ship transfer;
 - (d) LSIR for AGL Jetty, which covers the MLAs and hydrocarbon piping on the Crib Point jetty associated with the Project;

- (e) LSIR for United Berth / Jetty, which covers the United Petroleum berth, offloading hose, jetty piping and transfer pumps; and
 - (f) LSIR for Crib Point Receiving Facility, onshore facility only.
4. The cumulative LSIR for the LSIR for Gas Import Jetty and United Petroleum operation was provided in the Technical Report K but the individual LSIR for each activity is provided in the QRA.

[RFI 107] - Provide LSIR contour map in the event of blast and/or fire at CPRF.

5. The QRA (Document 128) provides the LSIR contours for each of the facilities separately. Figure 1 provided below shows the LSIR for the Crib Point Receiving Facility. Contours for individual events are not available.
6. Figure 1 – LSIR contour map for the Crib Point Receiving Facility:
 (Source: DNV-GL QRA Report (Document 128), figure 7.1.6, p 43)



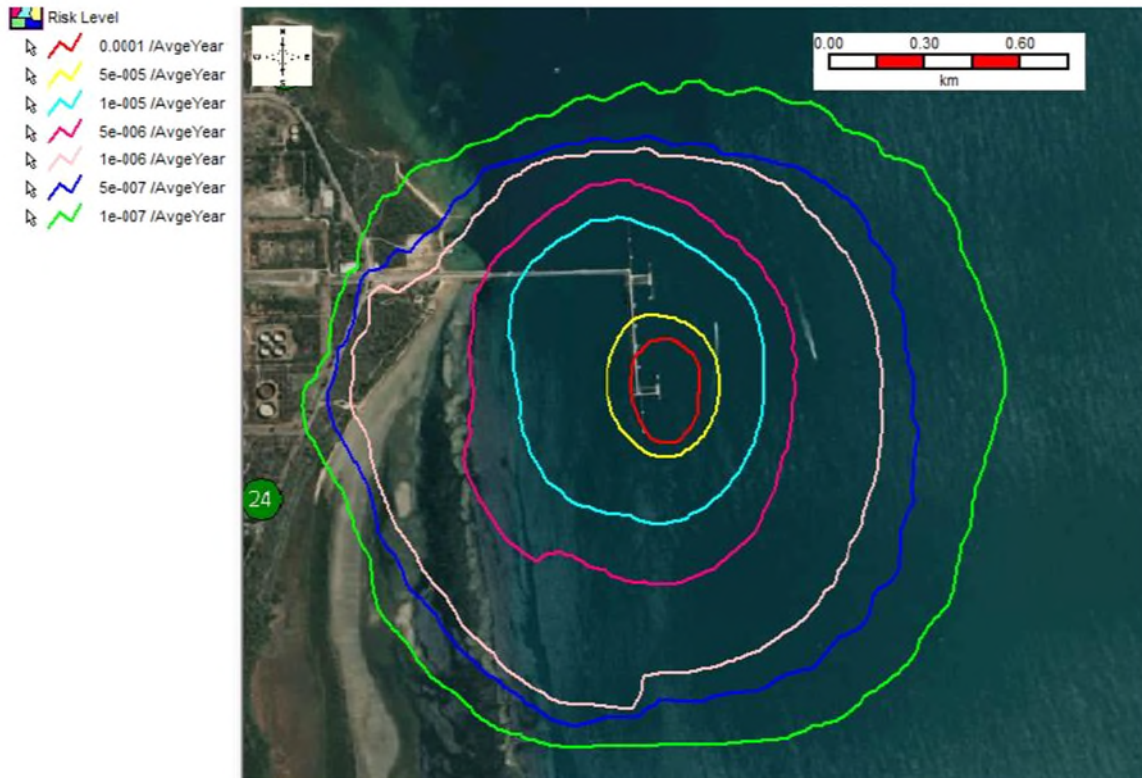
[RFI 108] - Provide the circumference of an impact zone in the event any risks highlighted in Appendix E (Potential Effects of LNG Hazards) occur in relation to isolated and cumulative activities.

7. Appendix E (Potential effects of LNG hazards) to EES Technical Report K: *Safety, hazard and risk assessments* lists the potential effects of LNG in the situation where there has been a loss of containment. Incidents that could result in a loss of containment may occur at different locations on the FSRU, which operate at different pressure and temperature conditions and contain different volumes for potential release.
8. The QRA (Document 128) considered releases from areas of the FSRU that contain LNG and the areas of the FSRU that contain natural gas after regasification has occurred. The risk and probability of each of these events is considered and the cumulative probability

reported in the QRA. The QRA includes the LSIR for just the FSRU and is shown below in Figure 2. Contours for individual events are not available.

9. Figure 2 – LSIR contour map for the FSRU:

(Source: DNV-GL QRA Report (Document 128), figure 7.1.1, p 40)



10. All safety and hazard risks will be assessed through the Safety Case regimes under the *Gas Safety Act 1997* and (it is anticipated, if the FSRU becomes a Major Hazard Facility) the *Occupational Health & Safety Act 2004*.

CORRESPONDENCE: N/A
ATTACHMENTS: N/A