

List of Tables

	<u>Page</u>
Table 1. Quantitative risk criteria for IR contours as provided by NFPA 59A (2016).	5
Table 2. (b) (4) ISO tank container design parameters.	11
Table 3. Routes and estimated mileage.	21
Table 4. Lifting operation LOC rate due to drops.	28
Table 5. Analysis of train accidents from FRA data.	29
Table 6. Train accident rates from FRA data.	30
Table 7. Calculated annual accident frequencies for the mainline portion of the 3 FECR routes.	30
Table 8. Representative probability of first car derailed for Class 1 and 2 Railroads (1995-2015).	34
Table 9. Train configurations evaluated in the analysis.	35
Table 10. Case 3 - Mainline train accident with derailment for train speeds between 25 mph and 60 mph. Probability of having X number of LNG ISO cars derail in the event of a train accident with derailment, where X is the number of LNG ISOs involved. On average, 11 sequential cars are involved in a derailment for this scenario.	37
Table 11. Case 2 - Mainline train accident with derailment for train speeds less than 25 mph. Probability of having X number of LNG ISOs derailing in the event of a train accident with derailment, where X is the number of LNG ISOs involved. On average, 5 cars are involved in a derailment for this scenario.	38
Table 12. Case 1 - Yard train accident with derailment. Probability of having X number of LNG ISOs derailing in the event of a train accident with derailment, where X is the number of LNG ISOs involved. On average, 4 cars are involved in a derailment for this scenario.	38
Table 13. Mainline train accident with derailment for train speeds less than and equal to 25 mph. On average, 5 cars are involved in a derailment for this scenario. These derailment probabilities were not used in the analysis but are shown here to illustrate the minimal effect of including the 25 mph data in the low speed case (Case 2).	39
Table 14. Probability of having X number of LPG rail cars derailing in the event of a train accident with derailment, where X is the number of LPG rail cars involved.	40