#### 8.3.1.2 Train Speeds Between 25 mph and 60 mph

All seven train configurations were evaluated for the mainline train movement scenarios for train speeds from 25 mph to 60 mph, inclusive. A summary of the risk metrics for the LNG mainline movement at train speeds from 25 mph to 60 mph cases is provided in Table 49. The baseline train configuration C-1 bounds the highest risk and is used for comparison purposes. The reduction in the SR Integral for each configuration is compared against C-1. The maximum IR observed is always less than Zone 2 - $1\times10^{-6}$ $yr^{-1}$ for all configurations, and it is less than the Zone 3 - $3\times10^{-7}$ $yr^{-1}$ threshold for train configurations C-6 and C-7. Based on comparison of the SR Integral for the seven configurations, a risk reduction of 38.0% may be realized by using C-4 instead of C-1 for the mainline movement at train speeds between 25 mph and 60 mph. Further, a risk reduction of 49.0% may be realized by using C-7 instead of C-1.

**Table 49. Summary of the risk metrics for high speed LNG ISO car train movements.**

| Risk Metric | Mainline Train Speeds ≥25 to ≤60 mph | | | | | | |
|---|---|---|---|---|---|---|---|
| | C-1 | C-2 | C-3 | C-4 | C-5 | C-6 | C-7 |
| SR Integral (total risk) | $7.14\times10^{-4}$ | $4.92\times10^{-4}$ | $4.63\times10^{-4}$ | $4.43\times10^{-4}$ | $4.14\times10^{-4}$ | $3.75\times10^{-4}$ | $3.64\times10^{-4}$ |
| Maximum IR | $5.12\times10^{-7}$ | $3.54\times10^{-7}$ | $3.42\times10^{-7}$ | $3.29\times10^{-7}$ | $3.14\times10^{-7}$ | $2.76\times10^{-7}$ | $2.68\times10^{-7}$ |
| Distance to $3\times10^{-7}$ IR (ft) | 200 | 120 | 110 | 80 | 60 | N/A | N/A |
| Risk Reduction | -- | 31.1% | 35.2% | 38.0% | 42.0% | 47.5% | 49.0% |

The FN curves for the seven train configurations are compared in Figure 60. The results indicate that the SR for the mainline movement at train speeds between 25 mph and 60 mph falls within the "ALARP" or tolerable region, regardless of train configuration.