

### 8.1.2 Train Speeds between 25 mph and 60 mph

A summary of the baseline risk metrics for the LNG mainline movement at train speeds between 25 mph and 60 mph cases is provided in Table 41. The maximum IR ( $5.12 \times 10^{-7} \text{ yr}^{-1}$ ) is less than the Zone 2 threshold criterion ( $1 \times 10^{-6} \text{ yr}^{-1}$ ) for the highest population density (11,800 people per square mile); thus, IR for any lower population density will have a lower maximum IR. Sensitive targets falling within the Zone 3 (IR between  $3 \times 10^{-7} \text{ yr}^{-1}$  and  $1 \times 10^{-6} \text{ yr}^{-1}$ ) range can be identified along the individual routes as necessary when accounting for the actual population density. The sensitive targets along the route are discussed in Section 8.4.

**Table 41. Mainline train speeds between 25 mph and 60 mph - summary of the risk metrics for LNG ISO car train movements.**

Risk Metric	Mainline Train Speeds 25 – 60 mph
	C-1 (Baseline)
SR Integral (total risk, $\text{yr}^{-1}$ )	$7.14 \times 10^{-4}$
Maximum IR ( $\text{yr}^{-1}$ )	$5.12 \times 10^{-7}$
Maximum Distance to Zone 1 - $1 \times 10^{-5}$ IR (ft)	N/A
Maximum Distance to Zone 2 - $1 \times 10^{-6}$ IR (ft)	N/A
Maximum Distance to Zone 3 - $3 \times 10^{-7}$ IR (ft)	200 <sup>63</sup>

The maximum Individual Risk value is located on the route, and the IR drops moving away from the route. A representative graph of the IR value versus distance from the PHAST Risk software is provided in Figure 44. The maximum IR value of  $5.12 \times 10^{-7} \text{ yr}^{-1}$  is located at the route, and the value drops in a parabolic fashion to the Zone 3 threshold value of  $3 \times 10^{-7} \text{ yr}^{-1}$  by approximately 60 meters (200 feet) to either side of the route.

The corresponding FN curve for the mainline track movement at train speeds between 25 mph and 60 mph is provided in Figure 45 for C-1. The results indicate that the SR for the mainline movement at train speeds between 25 mph and 60 mph falls within the “ALARP” region.

<sup>63</sup> Note that the distance to the IR thresholds is reported as rounded to the nearest 5 feet increments.