

Event Chain Diagram for Rail LNG

Exposure to Train is Number of **Formation** Number of **Hazmat Cars lanition of** Population: Involved Hazmat Loss of of Flammable Cars Release Release in an Cars Containment Flammable **Atmosphere** Derailed Contents **Derailed Atmosphere** Consequence Accident Speed Speed Following an Estimate Track Number of The hazards The include the LOC, the hazards population quality flammable Hazardous Accident cars in the flammable LNG must exposure atmosphere materials Method of cause train nature LNG vaporize and using U.S. must be car safety operation fuel vapors. flammable Census data Train ianited in Train length design, etc. vapors must is input into Track type length, etc. order for a fire There must mix with air in Risk Model Placement or explosion Human of hazards by a loss of the right for calculation to occur. factors of the IR and cars in the containment conditions. (LOC) event SR. The train, etc. Equipment Ignition involving the The size and potential for a design probabilities LNG downwind fatality, given as a function Railroad distance of a specific container. of time. type the flammable LOC thermal event distance and clouds are (i.e., flash fire, probabilities Traffic population, calculated in pool fire, jet and leak size time of day as exposure, distributions the fire. or etc. the flammable Risk Model. explosion), is are cloud is calculated in estimated. formed and the Risk dispersed. Model. are calculated in the Risk Model.

Sources: Arthur D. Little, Xiang Liu, Exponent, Cambridge Systematics