From: Jean Miller <jm_miller@sbcglobal.net>
To: "P66-railspur-comments@co.slo.ca.us"
<P66-railspur-comments@co.slo.ca.us>
Date: 11/23/2014 11:50 PM
Subject: Fw: Terrorists and Oil Trains

On Sunday, November 23, 2014 11:39 PM, Jean Miller <jm_miller@sbcglobal.net> wrote:

Dear Mr. Murray,

The one danger that I have not heard mentioned is that of terrorists or mentally unstable/suicidal people attacking oil trains.
These trains are instantly notable, move slowly, and appear to be large and easy targets for anyone inclined to take a shot at them.
Likewise I'm concerned about purposeful derailments of these trains.
I've heard no mention of how such situations could or would be avoided.

MIJ-01

I live in Davis in a senior community close to these railroad lines. An explosion could be catastrophic to all our seniors, many of whom have health issues that would be very seriously worsened by inhaling fumes from an explosion and fire.

Thank you for considering my comment.

Jean Miller
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MIJ-01	The RDEIR evaluated the potential risk associated with the crude oil rail transportation. The hazards identified in this analysis would be of similar magnitude whether caused by a train derailment or terrorist attack. It should be noted that industrialized societies, such as the United States, represent what would be considered a target rich environment for terrorist attacks. To put the relative hazards in perspective, a study of potential risks associated with rail transport of Toxic Inhalation Hazards (TIH) prepared by the Harvard Kennedy School. As noted in the study: The scale of potential fatalities is confirmed by the sophisticated and comprehensive analysis in a recent dissertation that examined the consequences of a 17 ton chlorine terror attack on a tanker truck. The study takes as its base case the rupture of a tanker truck carrying 17 tons of liquid chlorine in a generic urban area during daylight. While the analysis of the effect of structures on the three-dimensional propagation of the chlorine plume is less detailed than the Boris study and is, unlike that study, not specific to a particular city, the behavioral model is more detailed, and accounts for both the rate at which people can escape from open spaces and the extent to which sheltering in place saves (or sometimes may cost) lives. In the absence of a fast and effective defense response and with 2.5 meters/second wind speed, and a specified wind stability, approximately 4,000 fatalities are estimated, half within 10 minutes, and up to 30,000 fatalities, half within 20 minutes, depending on the dose response model. Fatality consequences are found to be roughly proportional to the amount of chlorine released, so a ruptured 90 ton rail car would, under a reasonable range of conditions, kill approximately 5 times as many people as would release of 17 tons from a truck. Assumptions for this range of estimates (4,000 to 30,000 fatalities depending on dose-response assumptions) is based on an outdoor population density in the target area of only 7 percent of the total daytime population density, it suggests that the Boris estimate of up to 100,000 deaths from a successful rail car attack is not as excessive or unsubstantiated as some critics have claimed. This compares to the RDEIR worst-case analysis of a train derailment in a populated area where six rail cars fail, with the resulting fire and explosions having the potential to result in an upper bound 400 injuries and 45 fatalities. It is more likely that a terrorist would focus on rail cars containing commonly transported acutely hazardous materials, such as chlorine, sulfur dioxide, sulfuric acid, hydrochloric acid, or anhydrous ammonia. A successful terrorist attack and breach of a single rail car containing a TIH chemical would be a orders of magnitude worse than an attack on a crude oil unit train. As noted in the RDEIR, potential accidents would represent a Significant and Unavoidable (Class I) impact.