

To: JEN

From: M. G. McCollum
Date: January 5, 1993Interoffice
Communication

Subject: RELEASE MODELING - RUPTURED VCM RAILCAR

VISTA

Following are the results from the initial rail car modeling case. Assumptions made and methods used are detailed below and in the basis memo dated 12/30/92.

	Stability Class	Conc. (ppm)	Isopleth Dimensions (ft)	
			Length	Width
1	D	5	14,436	1,312
2	D	1,000	574	66
3	D	18,000	-	-
4	F	5	49,212	1,837
5	F	1,000	1,247	66
6	F	18,000	-	-

DESIGN BASIS

Total release of VCM rail car (180 M lbs) over a two hour period.

ASSUMPTIONS/METHOD

Due to limitations of SPILLS, the release was modeled as an instantaneous release that forms a 100 m² pool of liquid. The model calculates the evaporation time as 610 minutes.

The isopleths are stable only in steady state conditions. The closest approach to steady state should occur immediately before the VCM totally evaporates. The plume dimensions above occur 6 hours after the release.

Assume there was no fire.

CC: TRM