

DCA13MR002
Conrail - Shared Assets
Derailment/Hazardous Material Release
Paulsboro, New Jersey
November 30, 2012

Hazardous Materials
Group Factual Report

ATTACHMENT 26 – NOAA
DISPERSION MODELING-1

Text Summary



SITE DATA:

Location: AMBLER, PENNSYLVANIA
Building Air Exchanges Per Hour: 0.46 (unsheltered single storied)
Time: November 30, 2012 1050 hours EST (using computer's clock)

CHEMICAL DATA:

Chemical Name: VINYL CHLORIDE Molecular Weight: 62.50 g/mol
AEGL-1 (60 min): 250 ppm AEGL-2 (60 min): 1200 ppm AEGL-3 (60 min): 4800
ppm
LEL: 36000 ppm UEL: 330000 ppm
Carcinogenic risk - see CAMEO Chemicals
Ambient Boiling Point: 7.0° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 2 knots from NNE at 3 meters
Ground Roughness: open country Cloud Cover: 7 tenths
Air Temperature: 39° F Stability Class: B
No Inversion Height Relative Humidity: 76%

SOURCE STRENGTH:

Leak from hole in horizontal cylindrical tank
Flammable chemical escaping from tank (not burning)
Tank Diameter: 10 feet Tank Length: 42.5 feet
Tank Volume: 25000 gallons
Tank contains liquid Internal Temperature: 39° F
Chemical Mass in Tank: 97.9 tons Tank is 100% full
Circular Opening Diameter: 2 inches
Opening is 6 feet from tank bottom
Release Duration: ALOHA limited the duration to 1 hour
Max Average Sustained Release Rate: 2,330 pounds/min
(averaged over a minute or more)
Total Amount Released: 116,935 pounds
Note: The chemical escaped as a mixture of gas and aerosol (two phase flow).

Toxic Threat Zone

Time: November 30, 2012 1050 hours EST (using computer's clock)

Chemical Name: VINYL CHLORIDE
Carcinogenic risk - see CAMEO Chemicals

Wind: 2 knots from NNE at 3 meters

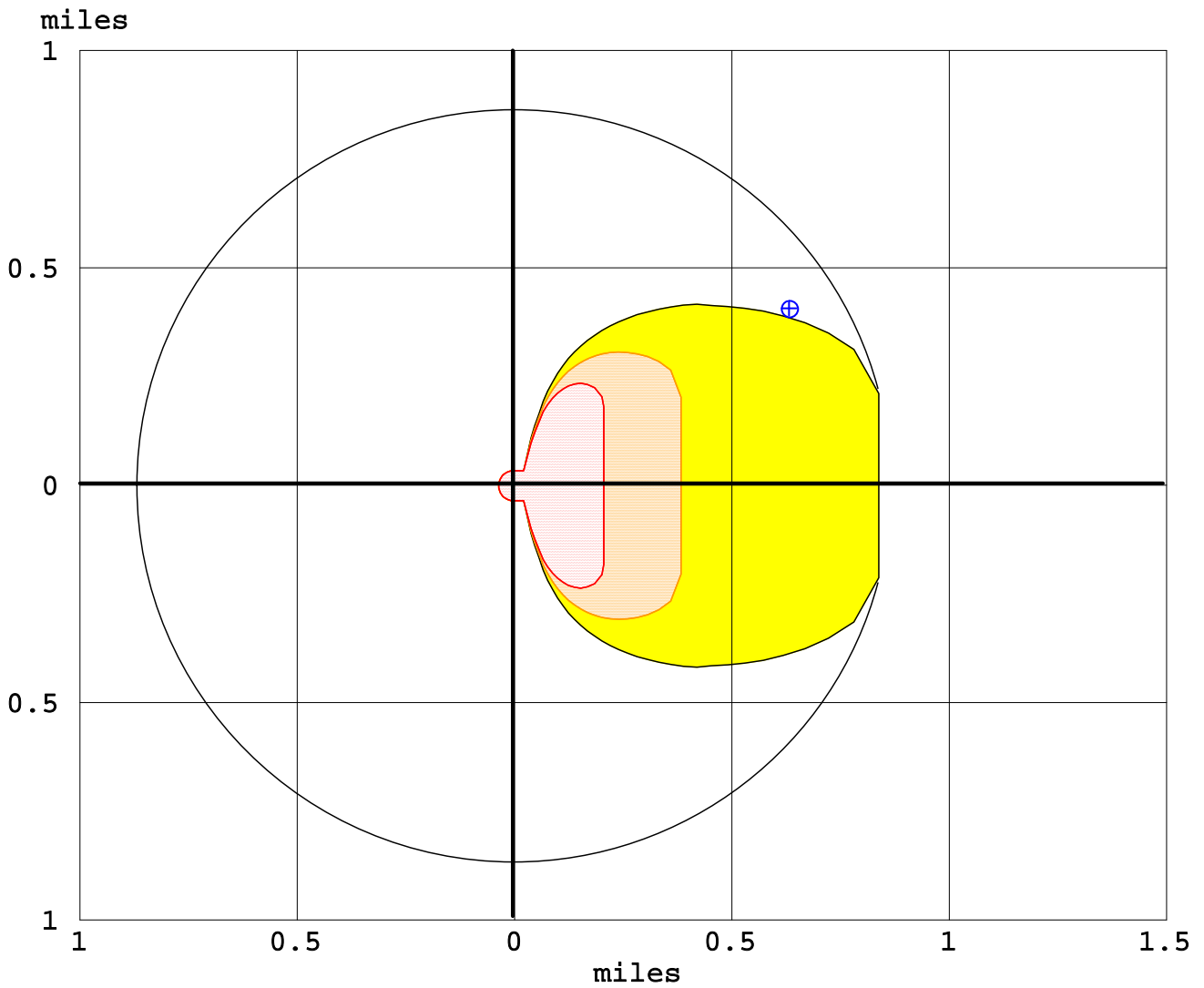
THREAT ZONE:





Model Run: Heavy Gas

Red : 363 yards --- (4800 ppm = AEGL-3 [60 min])

Orange: 676 yards --- (1200 ppm = AEGL-2 [60 min])

Yellow: 1475 yards --- (250 ppm = AEGL-1 [60 min])



-  greater than 4800 ppm (AEGL-3 [60 min])
-  greater than 1200 ppm (AEGL-2 [60 min])
-  greater than 250 ppm (AEGL-1 [60 min])
-  Confidence Lines