

Description

Heading: FLADIS16

Description: Model of the FLADIS trial 16 ammonia release.

Source Condition

Source Type: Continuous
Source Location: (0,0,1.5)m
Release Type: Momentum Jet
Discharge Coefficient: 1
Orifice Radius: 0.002m
Angle From Horizontal: 0deg
Angle Form North: 90deg
Release Rate: 0.27kg/s
Duration: 1200s
Using Finite Duration Model: Yes

Source Composition

Phase: Two-Phase
Substance: Ammonia (SRD Databank)
Liquid Fraction: 1
Temperature: 290.25K
Contaminant Mass Fraction: 1
Pressure: 798000Pa
Rainout Fraction: 0

Weather Conditions

Weather Scheme: Monin-Obukhov
Roughness Length: 0.04m
Wind Reference Height: 10m
Wind Angle From North: 270deg
Relative Humidity: 0.62
Temperature: 289.65K
Pressure: 102000Pa
Using User Input Mixing Height: Yes
User Input Mixing Height: 1000m
Inverse Obukhov Length: 0.007246/m
Friction Velocity: 0.41m/s

Flammable Targets

Flammable Limits Input By User: No
Lower Flammable Limit: 0%
Upper Flammable Limit: 0%
Target LFL Fractions: 1

Toxic Targets

Indoors Ventilation Rate: 0 air changes per hour
Indoors Lag Time: 0s
Maximum Exposure Duration: 600s
Use Time Averaging: Yes
Averaging Time: 600s
Toxic Dose Fraction Method: Method 1
Toxic Dose Exponents: Ammonia: 1
Outdoor Conc Criteria #1: 60ppm Ammonia

Expanded Source Conditions

Diameter: 0.0355394m
Velocity: 63.8643m/s
Density: 4.26183kg/m³
Vapour Fraction: 0.203377
Richardson Number: 0.0333249

Messages:

Running Model

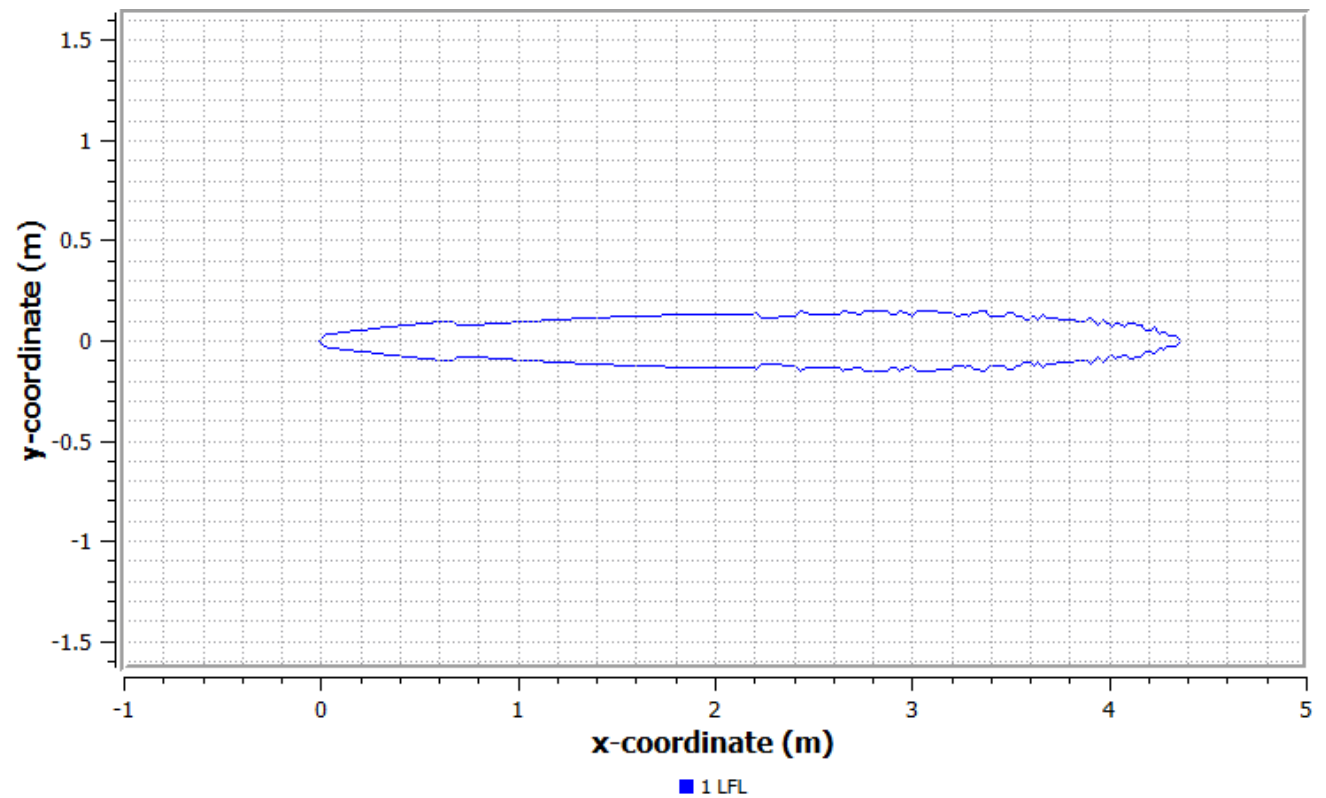
At 25.756m downstream from the source there is no liquid remaining in the cloud in phase 0

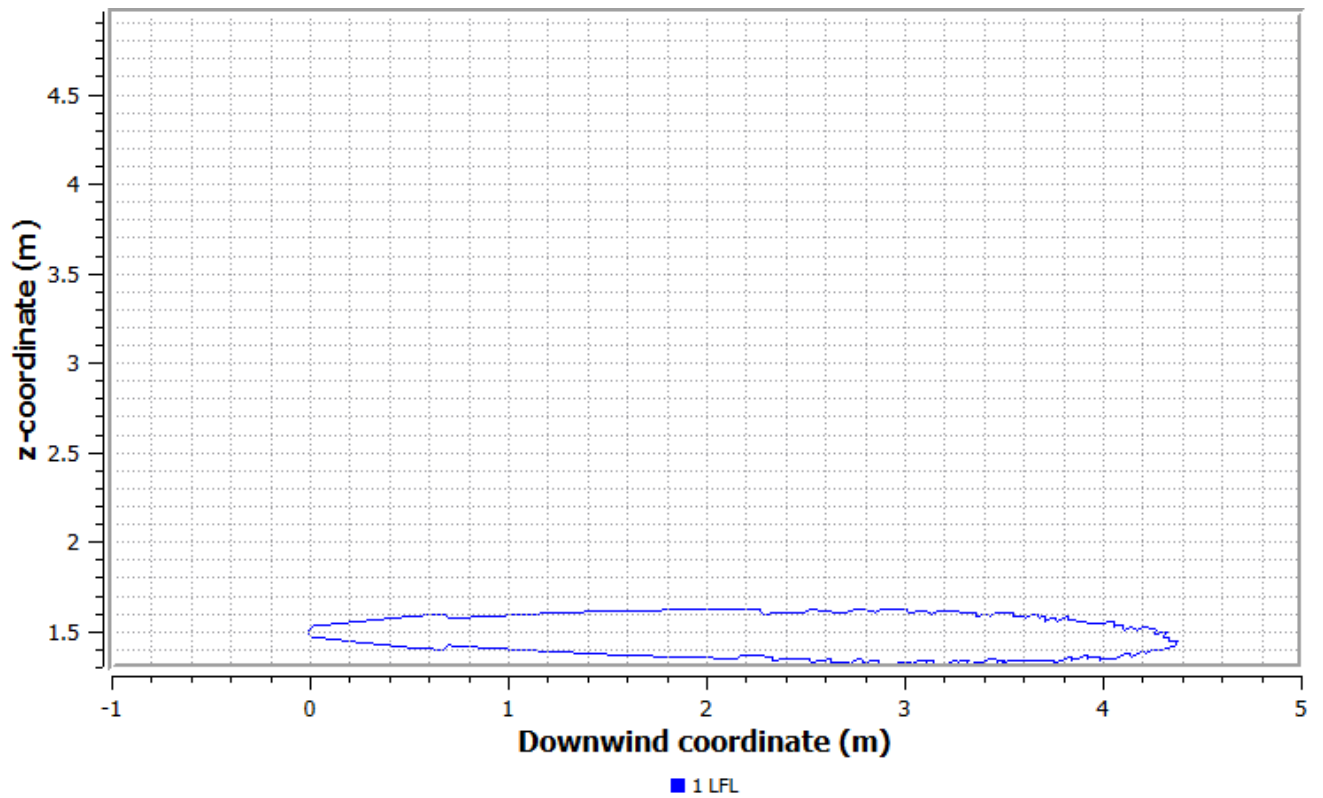
Run terminated 1202.93m downstream from the source. Cloud centreline concentration has fallen below the lowest level of interest.

General Results

Worst Case Time: Yes

Flammable Results





Worst Case Time: Yes

Worst Case Height: Yes

Flammable Volume: 0.166729m³

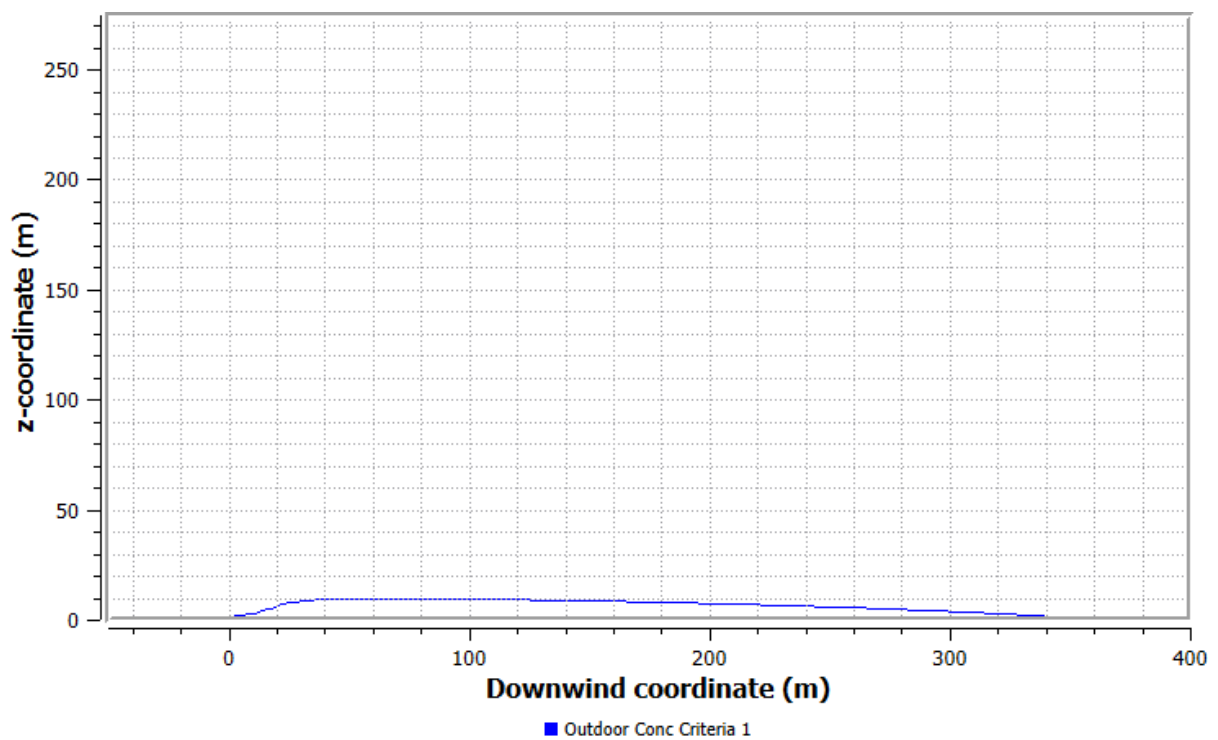
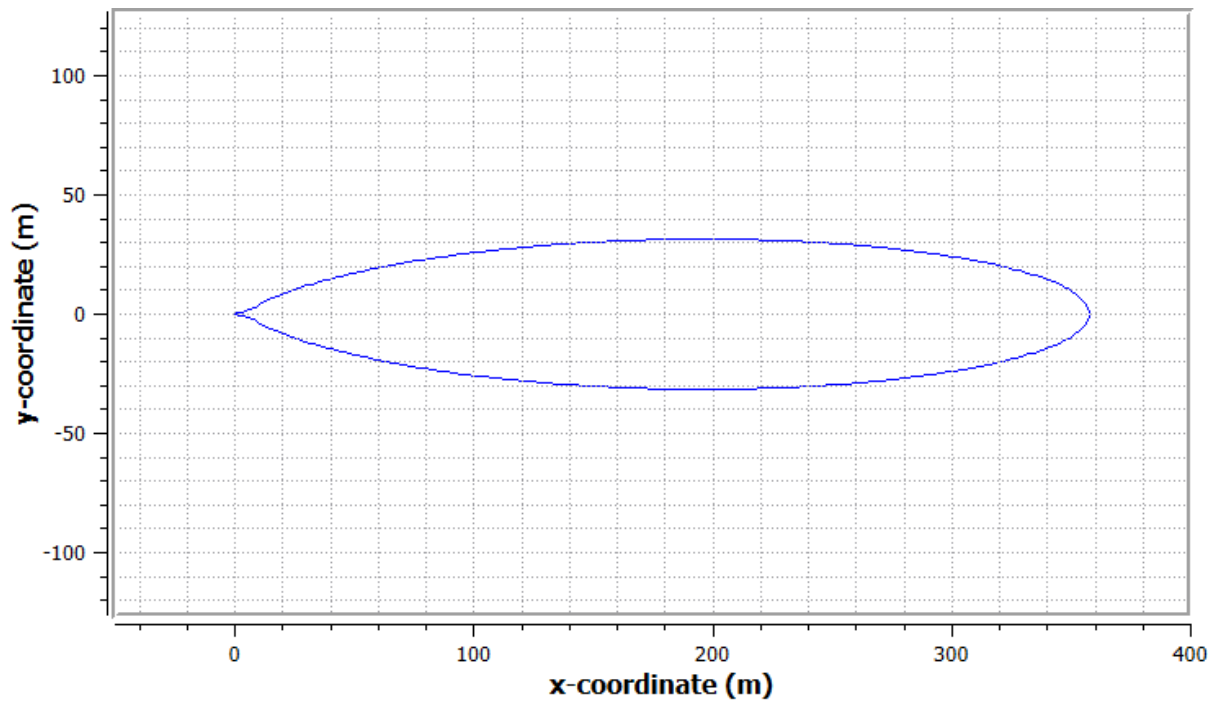
Excluding UFL Region: No

Flammable Mass: 0.0263268kg

Excluding UFL Region: No

	Fraction Of LFL Distance Upstream (m)	Distance Downstream (m)	Max. Half Width (m)	Distance to Max. Half Width (m)
1	0.0283204	4.35839	0.150006	3.01004

Toxic Results



Worst Case Time: Yes

Worst Case Height: Yes

Criteria Description:	Distance Upstream (m)	Distance Downstream (m)	Max. Half Width (m)	Distance to Max. Half Width (m)
Outdoor Concentration Level 1	0.0301932	358.224	31.467	196.821