Scenariul 8. Ruperea unui disc de rupere pe reactor, la instalatia de fabricare formaldehida de 60.000 to/an si dispersia gazelor rezultate (explozie mecanica fara aprindere).

➔ Dispersie formaldehida

a. Conditii de raspandire defavorabile

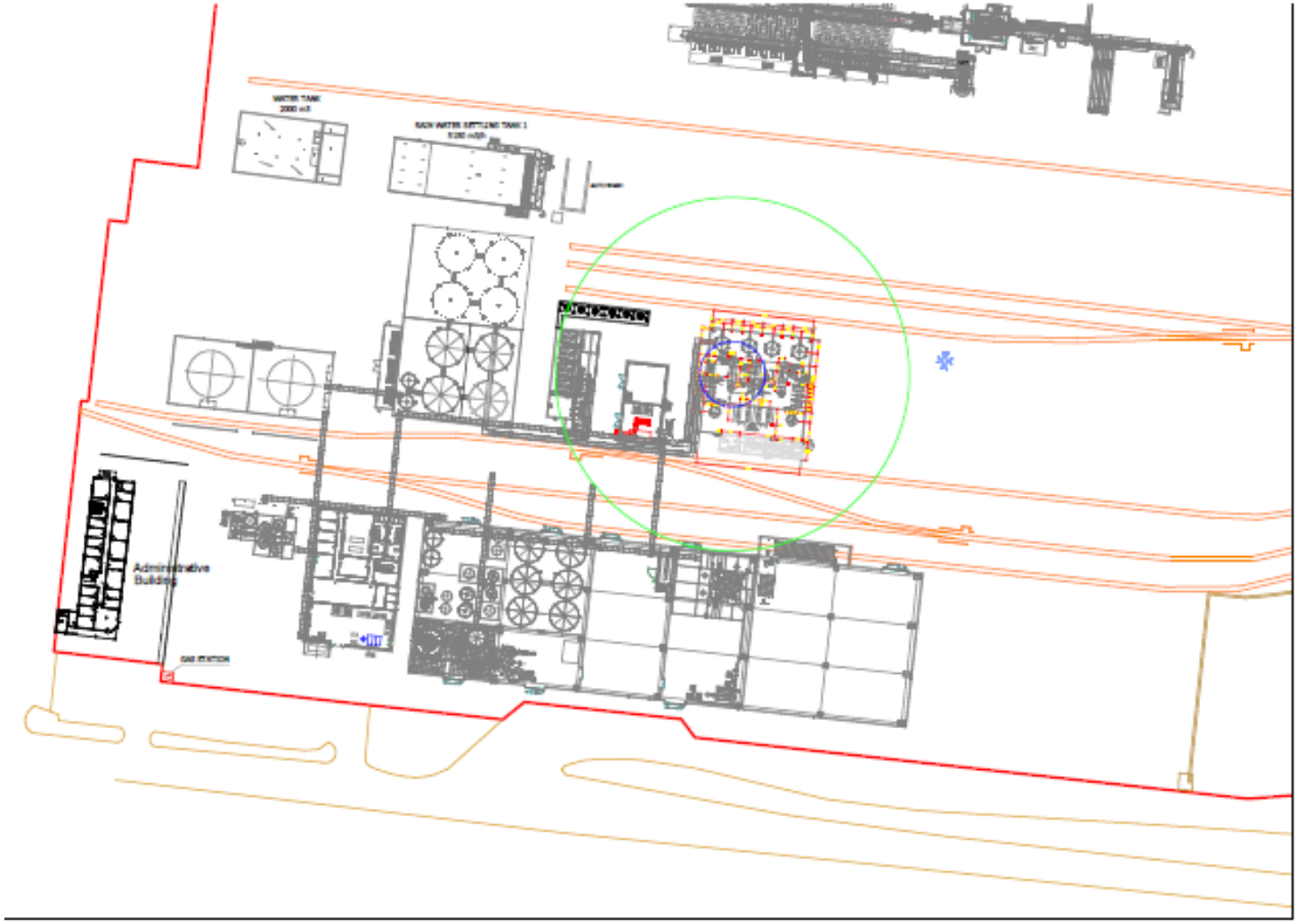
```
Simulare ALOHA

CHEMICAL DATA:
   Chemical Name: FORMALDEHYDE            Molecular Weight: 30.03 g/mol
   Default LOC-2: 20 ppm   Default LOC-3: 815 ppm
   AEGL-1 (60 min): 0.9 ppm   AEGL-2 (60 min): 14 ppm   AEGL-3 (60 min): 56 ppm
   IDLH: 20 ppm       LEL: 93844 mg/(cu m)   UEL: 978679 mg/(cu m)
   Ambient Boiling Point: - 19.7° C
   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: 1 meters/second from N at 3 meters
   Ground Roughness: urban or forest      Cloud Cover: 10 tenths
   Air Temperature: 20° C                 Stability Class: D
   No Inversion Height                    Relative Humidity: 80%

 SOURCE STRENGTH:
   Direct Source: 0.1239  kilograms       Source Height: 5 meters
   Release Duration: 1 minute
   Release Rate: 2.06 grams/sec
   Total Amount Released: 124 grams
   Note: This chemical may flash boil and/or result in two phase flow.

 THREAT ZONE: (GAUSSIAN SELECTED)
   Model Run: Gaussian[1)]
   Red   : LOC is not exceeded --- (815 ppm = Default LOC-3)
   Note: Threat zone was not drawn because
      the ground level concentrations never exceed the LOC.
   Orange: LOC is not exceeded --- (20 ppm = Default LOC-2)
   Note: Threat zone was not drawn because
      the ground level concentrations never exceed the LOC.
   Yellow: 54 meters --- (10 ppm = Default LOC-1)
```



Zona cu leziuni ireversebile

Zona cu leziuni reversibile(zona de atentie)

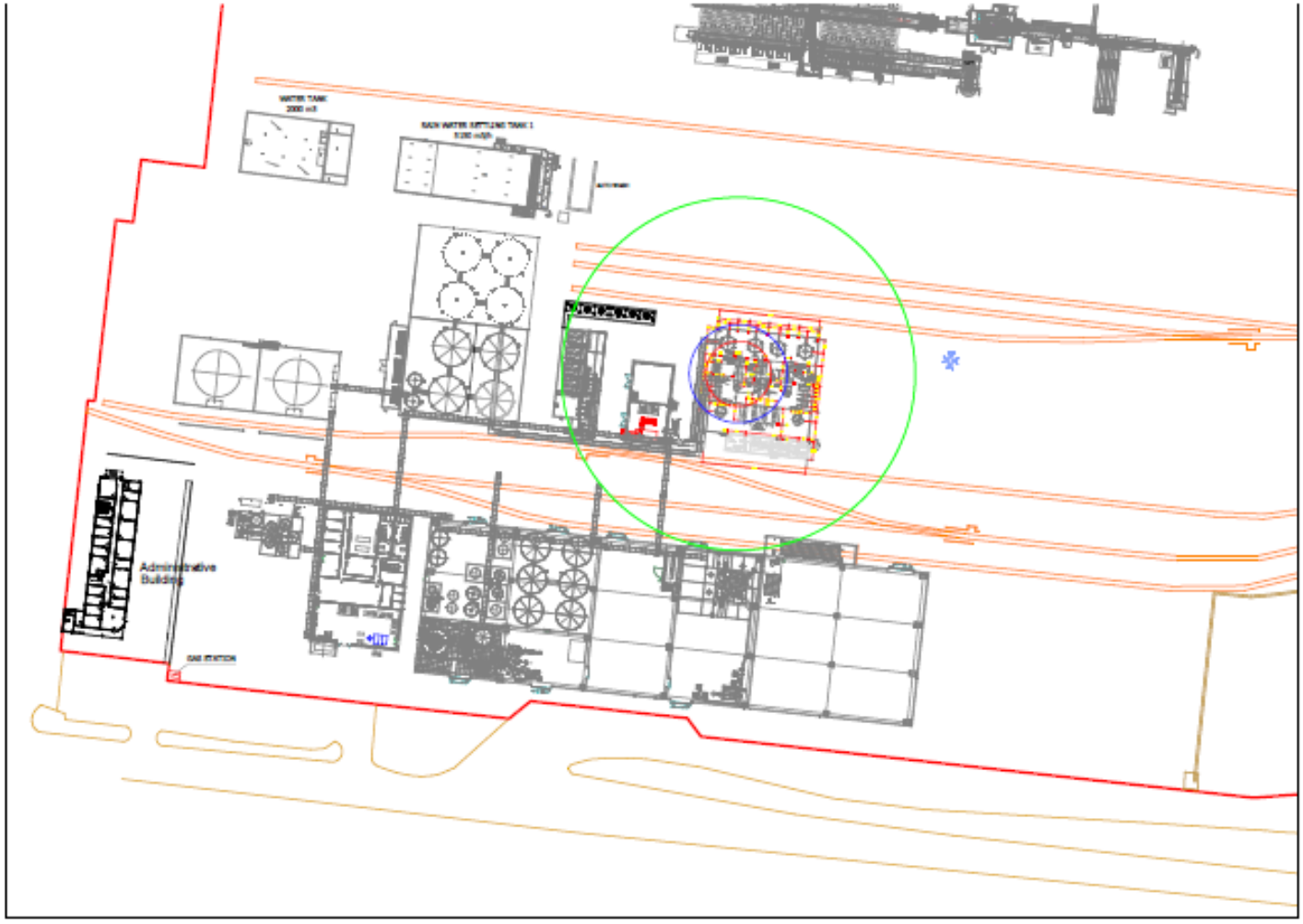
b. Conditii de raspandire medii

```
Simulare ALOHA

CHEMICAL DATA:
   Chemical Name: FORMALDEHYDE            Molecular Weight: 30.03 g/mol
   Default LOC-2: 20 ppm   Default LOC-3: 815 ppm
   AEGL-1 (60 min): 0.9 ppm   AEGL-2 (60 min): 14 ppm   AEGL-3 (60 min): 56 ppm
   IDLH: 20 ppm       LEL: 93844 mg/(cu m)   UEL: 978679 mg/(cu m)
   Ambient Boiling Point: - 19.7° C
   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: 3 meters/second from N at 3 meters
   Ground Roughness: urban or forest      Cloud Cover: 10 tenths
   Air Temperature: 20° C                 Stability Class: D
   No Inversion Height                    Relative Humidity: 80%

 SOURCE STRENGTH:
   Direct Source: 0.1239  kilograms       Source Height: 5 meters
   Release Duration: 1 minute
   Release Rate: 2.06 grams/sec
   Total Amount Released: 124 grams
   Note: This chemical may flash boil and/or result in two phase flow.

 THREAT ZONE: (HEAVY GAS SELECTED)
   Model Run: Heavy Gas
   Red   : LOC was never exceeded --- (815 ppm = Default LOC-3)
   Orange: 15 meters --- (20 ppm = Default LOC-2)
   Note: Threat zone was not drawn because effects of near-field patchiness
     make dispersion predictions less reliable for short distances.
  Yellow: 54 meters --- (10 ppm = Default LOC-1)
   Note: Threat zone was not drawn because effects of near-field patchiness
     make dispersion predictions less reliable for short distances.
```



Zona cu mortalitate ridicata
Zona cu leziuni ireversebile
Zona cu leziuni reversibile(zona de atentie)

➔ Dispersie metanol

a. Conditii de raspandire defavorabile

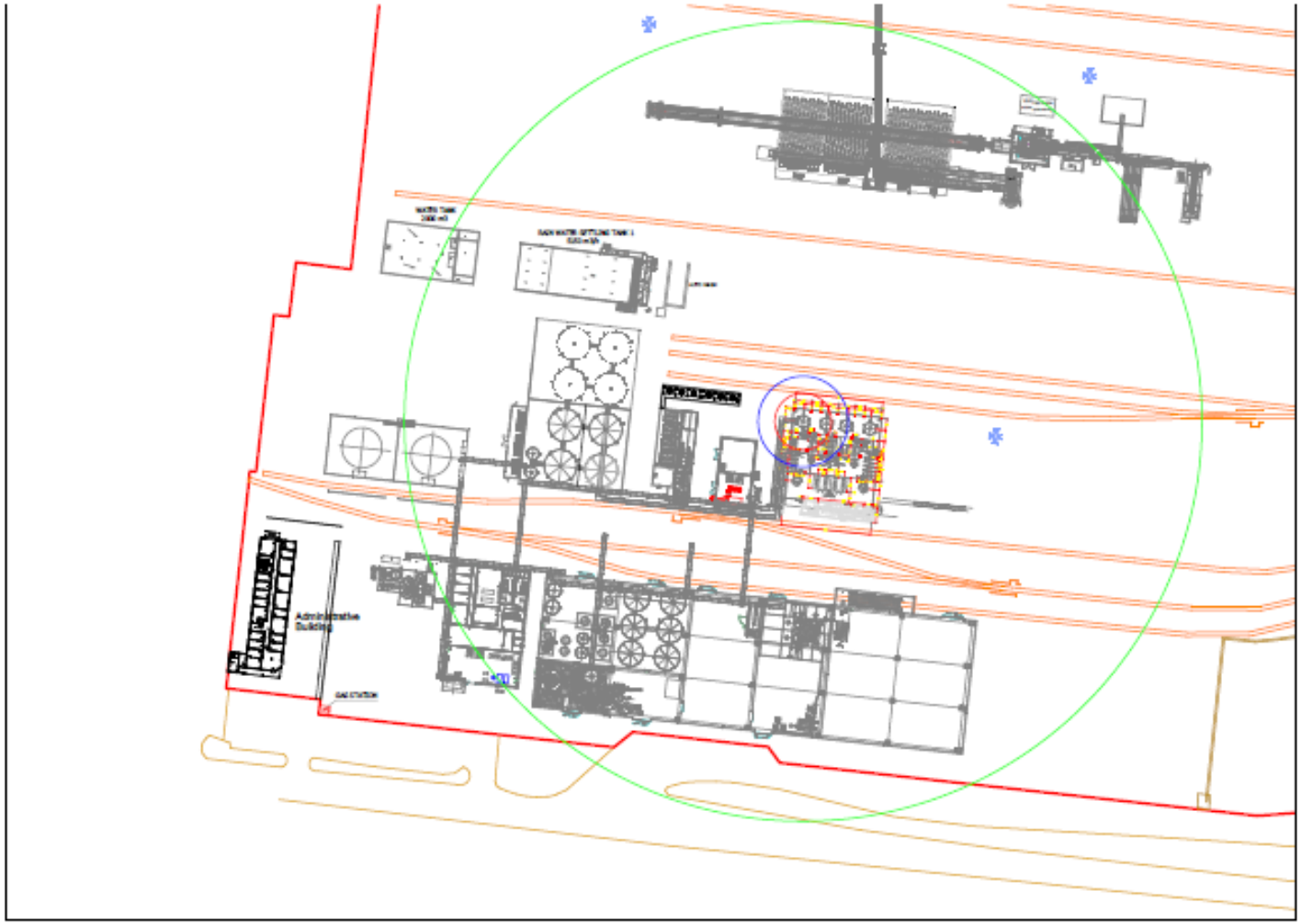
```
Simulare ALOHA

CHEMICAL DATA:
   Chemical Name: METHANOL
   CAS Number: 67-56-1                    Molecular Weight: 32.04 g/mol
   AEGL-1 (60 min): 530 ppm   AEGL-2 (60 min): 2100 ppm   AEGL-3 (60 min): 7200
ppm
   IDLH: 6000 ppm     LEL: 71800 ppm      UEL: 365000 ppm
   Ambient Boiling Point: 63.7° C
   Vapor Pressure at Ambient Temperature: 0.13 atm
   Ambient Saturation Concentration: 130,928 ppm or 13.1%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 1 meters/second from N at 3 meters
   Ground Roughness: urban or forest      Cloud Cover: 10 tenths
   Air Temperature: 20° C                 Stability Class: D
   No Inversion Height                    Relative Humidity: 80%

 SOURCE STRENGTH:
   Direct Source: 3.167  kilograms        Source Height: 5 meters
   Release Duration: 1 minute
   Release Rate: 52.8 grams/sec
   Total Amount Released: 3.17 kilograms

 THREAT ZONE: (HEAVY GAS SELECTED)
   Model Run: Heavy Gas[1)]
   Red   : less than 10 meters(10.9 yards) --- (128000 ppm)
   Note: Threat zone was not drawn because effects of near-field patchiness
     make dispersion predictions less reliable for short distances.
   Orange: 16 meters --- (6000 ppm)
   Note: Threat zone was not drawn because effects of near-field patchiness
     make dispersion predictions less reliable for short distances.
  Yellow: 141 meters --- (200 ppm = ERPG-1)
```



Zona cu mortalitate ridicata
Zona cu leziuni ireversebile
Zona cu leziuni reversibile(zona de atentie)

b. Conditii de raspandire medii

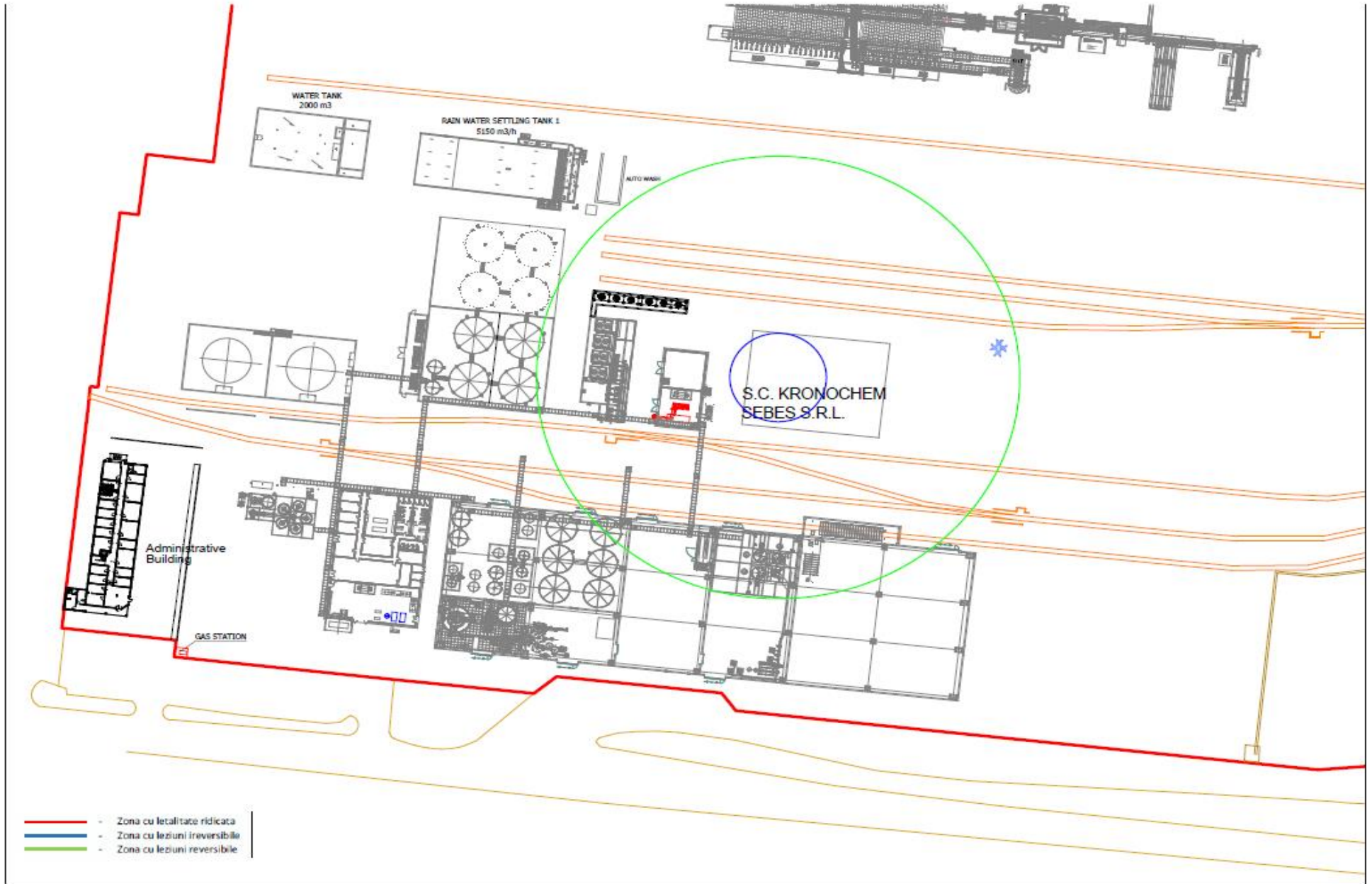
Simulare ALOHA

CHEMICAL DATA:
Chemical Name: METHANOL
CAS Number: 67-56-1 Molecular Weight: 32.04 g/mol
AEGL-1 (60 min): 530 ppm AEGL-2 (60 min): 2100 ppm AEGL-3 (60 min): 7200 ppm
IDLH: 6000 ppm LEL: 71800 ppm UEL: 365000 ppm
Ambient Boiling Point: 63.7° C
Vapor Pressure at Ambient Temperature: 0.13 atm
Ambient Saturation Concentration: 130,928 ppm or 13.1%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 3 meters/second from N at 3 meters
Ground Roughness: urban or forest Cloud Cover: 10 tenths
Air Temperature: 20° C Stability Class: D
No Inversion Height Relative Humidity: 80%

SOURCE STRENGTH:
Direct Source: 3.167 kilograms Source Height: 5 meters
Release Duration: 1 minute
Release Rate: 52.8 grams/sec
Total Amount Released: 3.17 kilograms

THREAT ZONE: (HEAVY GAS SELECTED)
Model Run: Heavy Gas[1)]
Red : less than 10 meters(10.9 yards) --- (128000 ppm)
Note: Threat zone was not drawn because effects of near-field patchiness make dispersion predictions less reliable for short distances.
Orange: 14 meters --- (6000 ppm)
Note: Threat zone was not drawn because effects of near-field patchiness make dispersion predictions less reliable for short distances.
Yellow: 87 meters --- (200 ppm = ERPG-1)


WATER TANK
2000 m3
RAIN WATER SETTLING TANK 1
5150 m3/h
AUTO WASH
S.C. KRONOCHEM
SEBES S.R.L.
Administrative
Building
GAS STATION
- Zona cu letalitate ridicata
- Zona cu leziuni ireversibile
- Zona cu leziuni reversibile