Appendix B ODD Uncertainty Grading for Safety Training of Autonomous Systems

Input: Solution System (Eagle Robot), Operational Space (typical area of operations [eg. Train track zone])		**Grade A Uncertainty environment:**
Environment Characteristics		**Ideal natural environment** system for perception
Natural Lighting Conditions		Sunny
Weather Conditions	**Precipitation** mm/h	0
	Wind km/h	<5
	Humidity %	50
	Visibility km	>8
	Cloud Cover	Clear or Blue Sky (0/8 oktas)
	Snow mm/12 hrs	0
	Pollen	No pollen
	Sand	Neither sand nor dust storms

	Temperature	15-25 degrees Celsius
	Sunshine Duration	12 hours
Time of the Year: Seasons-specific environmental characteristics		1 type of season
Landscapes type variety definition		1 type of Landscapes
Geographical region-specific natural phenomena		0 or 1 type of Infrastructure
Time of the Day		Midday (Noon)
Perceived Horizon Attitude		1 type
Sun sphere positioning		1
Moon sphere positioning		1
Specialised zones features		1 feature

grade B Uncertainty environment:	**Grade C Uncertainty environment:**
More favorable natural environment system	**Partly** favorable natural environment system
Bright	Mostly Sunny / Partly Cloudy. Partly Sunny / Mostly Cloudy.
<10	10-20
5 – 8 k	8 – 20
40-60	20 – 40 & 60-70
>5	1-5km
Mostly Clear or Sunny (1/8 to 2/8 oktas),	Partly Cloudy or Fair (3/8 to 4/8 oktas):
0 – 50	20 – 150
moderate	high
low	low
To be defined by the architect	To be defined by the architect

10 hours	8 hours
1 type	2 types
3 types	5 types
3 types	5 types
3 types	4 types
2 types	4 types
2	3
2	3
2 features	3 features

Grade D Uncertainty environment:	**Grade E Uncertainty environment:**
Less favorable natural environment system	**No or Not** favorable states
Cloudy / Overcast	Hazy Sunshine, Variable Clouds / Variable Sunshine, Intermittent Sun / Sun Breaks, Cloudy / Overcast
20-50	> 50
20 - 30	>30
0 – 20 & 70 - 90	>90
0.4 - 1	<0.4
Mostly Cloudy or Cloudy (5/8 to 7/8 oktas)	Overcast (8/8 oktas), Obscured or Foggy
150 – 250	>250
Very high	Very high
Sandstorm	Dust and sandstorm
To be defined by the architect	To be defined by the architect

4 hours	2 hours
3 types	4 types
7 types	10 types
7 types	10 types
6 types	8 types
5 types	7 types
3	4
3	4
3+ features	3+ features