

ECRAN Climate
Emissions Trading Working Group
Advanced Technical Training Programme on the EU Verification
and Accreditation Regulation
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EXERCISE – RISK ANALYSIS

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This Project is funded by the European Union



Project implemented by Human Dynamics
Consortium

EXERCISE – INSTALLATION „ENERGY”

- installed capacity: 28 MW
- one steam boiler
- fuels: natural gas, fuel oil
- own flow meter for each source stream
- analysis in external laboratories
- annual emission: 42.000 t CO₂
- source stream contributions to overall emissions:
 - natural gas: 36.500 t CO₂
 - fuel oil: 5.500 t CO₂



PROBABILITY AND IMPACT

- probability

Very low	Unlikely to occur more than once per year
Low	May occur up to 4 times per year
Moderate	May occur up to 12 times per year
High	May occur up to 24 times per year
Very high	May occur more than 24 times per year

- impact

Very low	No noticeable effect on measured parameter
Low	Effect leads to misstatement of max. ± 50 tonnes CO ₂ (e)
Moderate	Effect leads to misstatement of max. ± 250 tonnes CO ₂ (e)
High	Effect leads to misstatement of max. ± 500 tonnes CO ₂ (e)
Very high	Effect leads to misstatement of more than ± 500 tonnes CO ₂ (e)



INHERENT RISK

- combination of probability and impact

		Impact				
		Very low	low	moderate	high	Very high
Probability	Very low	Low				
	Low					
	Moderate					
	High					
	Very high					

Low

Moderate

High



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EXERCISE WORKSHEET

- task – try to fill in the rest of the table

	A	B	C	D	E	F	G	H	I	J	K
1											
2		SOURCE STREAM	ACTIVITY	INCIDENT	PROBABILITY	IMPACT	INHERENT RISK	CONTROL ACTIVITY	CONTROL RISK	DETECTION RISK	
3											
4		FUEL OIL	determining the quantity by flow meter								
5			determining the quantity by flow meter								
6			determining NCV by lab analysis								
7			determining EF by lab analysis								
8			selection of value for OF								
9			determine total emissions								
10											
11											
12											
13					very low	very low				very low	
14					low	low	low		low	low	
15					moderate	moderate	moderate		moderate	moderate	
16					high	high	high		high	high	
17					very high	very high				very high	
18											
19											
20											



EXERCISE WORKSHEET

- possible solution

	A	B	C	D	E	F	G	H	I	J	K
1											
2		SOURCE STREAM	ACTIVITY	INCIDENT	PROBABILITY	IMPACT	INHERENT RISK	CONTROL ACTIVITY	CONTROL RISK	DETECTION RISK	
3											
4		FUEL OIL	determining the quantity by flow meter	meter failure	low	high	moderate	maintenance plan in place	low	low	
5			determining the quantity by flow meter	reading missing	high	moderate	high	poor control of data transfer	high	very high	
6			determining NCV by lab analysis	sample not representative	moderate	low	moderate	sampling plan not complete	moderate	moderate	
7			determining EF by lab analysis	analysis not performed	moderate	moderate	moderate	accreditation certificate in place	low	low	
8			selection of value for OF	incorrect factor selected	very low	low	low	source for OF listed in MP	low	very low	
9			determine total emissions	processing error	low	very high	high	internal control partially prescribed	moderate	high	
10											
11											
12											

