IED Chapter V – Fugitive Emissions – O1 (Annex VII Part 7)

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DIRECTIVES

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on industrial emissions (integrated pollution prevention and control)

(Recast)

(Text with EEA relevance)

CHAPTER V

SPECIAL PROVISIONS FOR INSTALLATIONS AND ACTIVITIES USING ORGANIC SOLVENTS

Definition Fugitive Emissions

IED Art. 57 No 2 – "Fugitive Emissions"

"Any emissions **not in waste gases** of volatile organic compounds into air, soil and water as well as solvents contained in any products, unless otherwise stated in Part 2 of Annex VII.

They **include uncaptured emissions** into air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings (see Annex VII Part 7 No 2)

Definition Fugitive Emissions

IED Article 57 (2): "Waste Gas"

O1 = Emissions in Waste Gases

O1 = O1.1 + O1.2

Final gaseous discharge containing volatile organic compounds or other pollutants, from a stack or abatement **equipment into air**

German Ordinance § 2 No 12: Definition "Captured Waste Gas"

a) Waste gas, that is finally discharged into atmosphere from a waste gas treatment unit = captured treated (= cleaned) waste gas **O1.1**

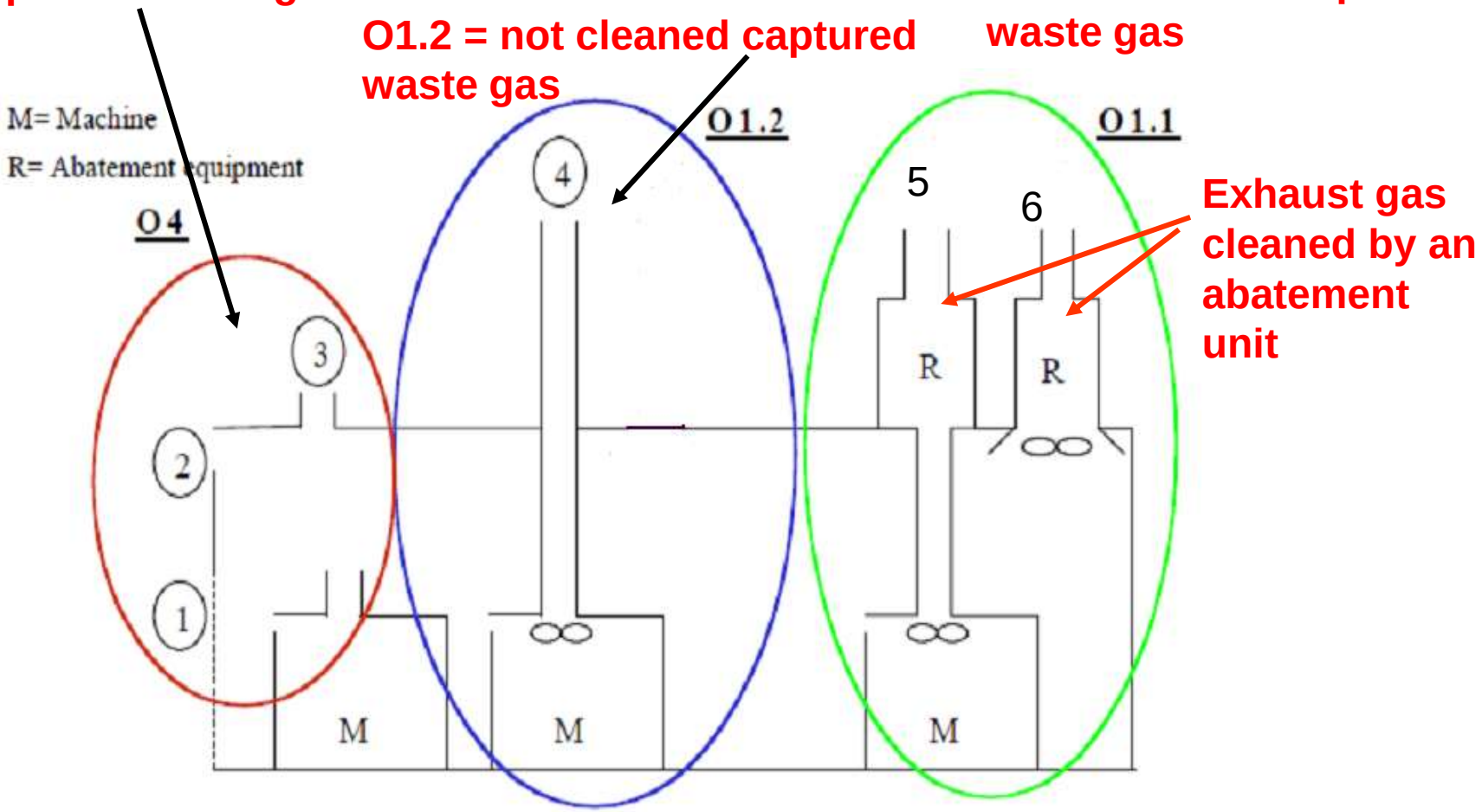
b) Waste gas, that is finally discharged into atmosphere by a stack or other waste gas pipes = captured untreated (= not cleaned) waste gas **O1.2**

Overview about different emission situations

O4 = fugitive emissions = uncaptured waste gas

O1.2 = not cleaned captured waste gas

O1.1 = cleaned captured waste gas



Exhaust gas cleaned by an abatement unit

For certain installations = generally coating installations:

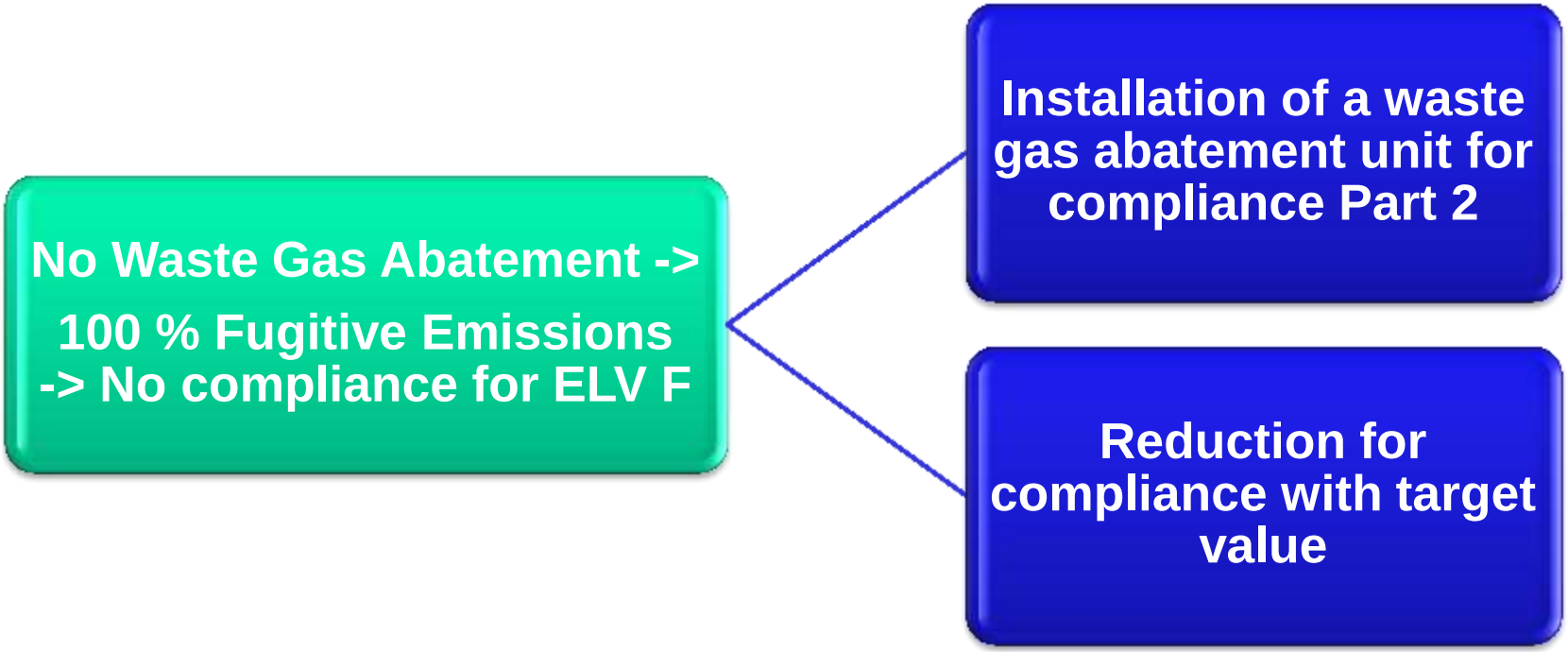
O1.2 = uncleaned captured waste gas is considered as fugitive emission F!

- Heatset web offset printing installations
- Installations that realize other printing activities
- Vehicle refinishing installations
- Coating of road vehicles, driving cabs, commercial vehicles, and rail vehicles (solvent consumption =15 t/year)
- Coil coating installations
- Installations that coat other metallic or plastic surfaces
- Installations that coat wood or wood materials
- Installations that coat film or paper surfaces
- Adhesive coating installations

Consequences:

In **all** this cases where **no VOC exhaust gas abatement unit exists all exhaust gases are fugitive emissions** ->emitted VOC content of applied materials = **total solvent input = 100% fugitive emission**

-> always **no compliance to fugitive limit value** is given (fugitive limit value results from a percentage of solvent input)



Advantages:

- Problem with „**dilution or cooling**“ with air is left out – it is not the target of VOC Directive to comply to emission limit value (“mass concentration”) in waste gas by dilution with air!
- **No discussions** necessary according to fugitive emissions sources!
- Numerous installations without exhaust gas abatement technique will choose the reduction scheme = compliance by taking **primarily measures** = **Avoidance of VOC emissions = aim of EU Directive!**

The calculation of the fugitive emissions F

according to the Solvent Emission Directive and

for general activities according to the German Ordinance

F = O2 + O3 + O4 + O9

F = I1 – O1 – O5 –O6 – O7 – O8

German approach: Calculation for coating and printing installation

F = **O1.2** + O2 + O3 + O4 + O9

F = I1 – **O1.1** – O5 –O6 – O7 – O8

The general legal definition in Germany is the same, but for certain installations O 1.2 has to be assigned to the fugitive emissions

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