



BAT for integrated pollution prevention and control for the fertiliser industry

Dr. Bernd Serr

European Integrated Pollution Prevention and Control Bureau



Dr. Bernd Serr
European IPPC Bureau
IPTs Edificio Expo,
C/ Inca Garcilaso s/n
E-41092 Sevilla
Tel.: +34 954 48 8276
Fax: +34 954 48 8426
Bernd.Serr@cec.eu.int

Dr. Bernd Serr

- BREF „Organic Fine Chemicals”
- BREF „LVIC – Ammonia, Acids and Fertilisers“
- before: EHS Officer in Baden-Württemberg, DE

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IPPC Directive 1996

- Permit system for installations in the EU
 - Permits have to be based on BAT
 - To be fully applied until Oct. 2007
 - *Information exchange on BAT:*

- European IPPC Bureau
- Technical Working Groups
- BAT Reference Documents

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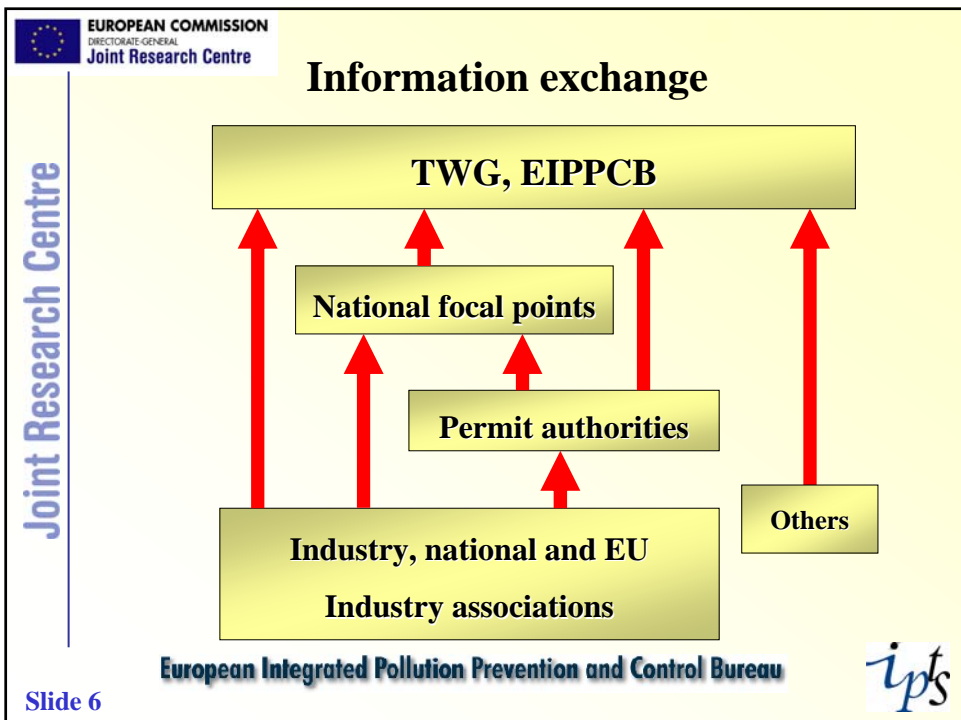
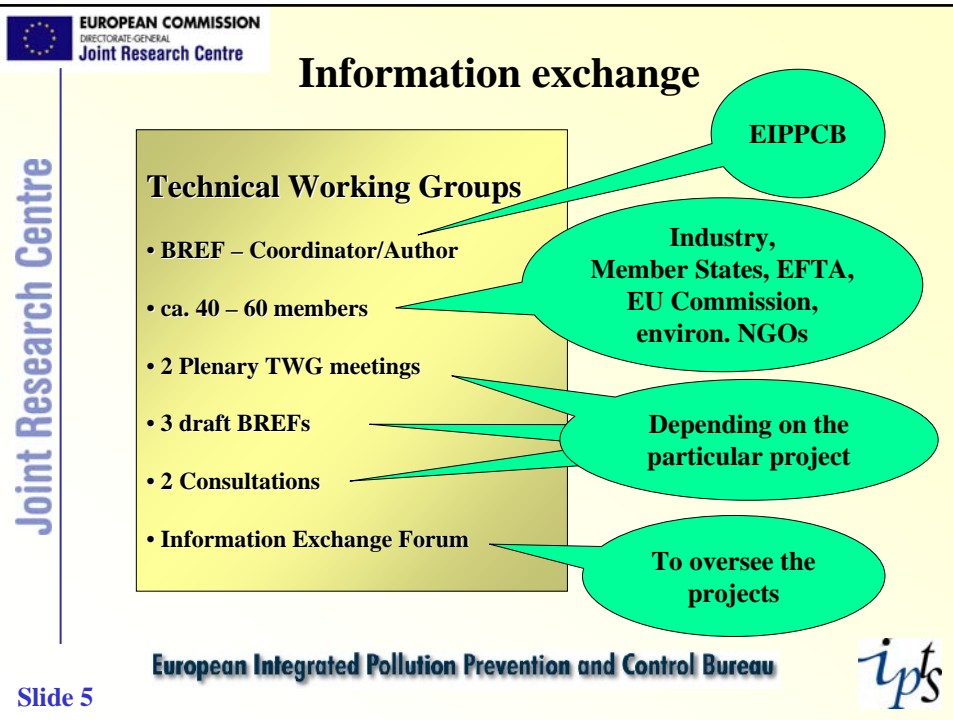
Information exchange

“[...] (25) the development and exchange of information at Community level about best available techniques will help to redress the technological imbalances in the Community, will promote the worldwide dissemination of limit values and techniques used in the Community and will help the Member States in the efficient implementation of this Directive[...].”

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Best Available Techniques

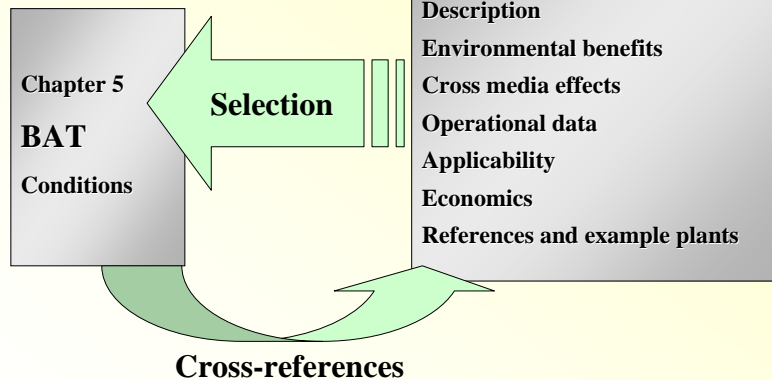
- Review current performance with respect to key relevant environmental issues
- Identify techniques used to achieve the “best” current performances
- Examine cross-media effects
- Examine economic and technical conditions under which the techniques are applicable

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Best Available Techniques



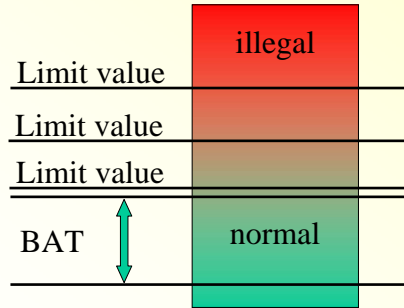
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Best Available Techniques

BAT levels are no limit values !



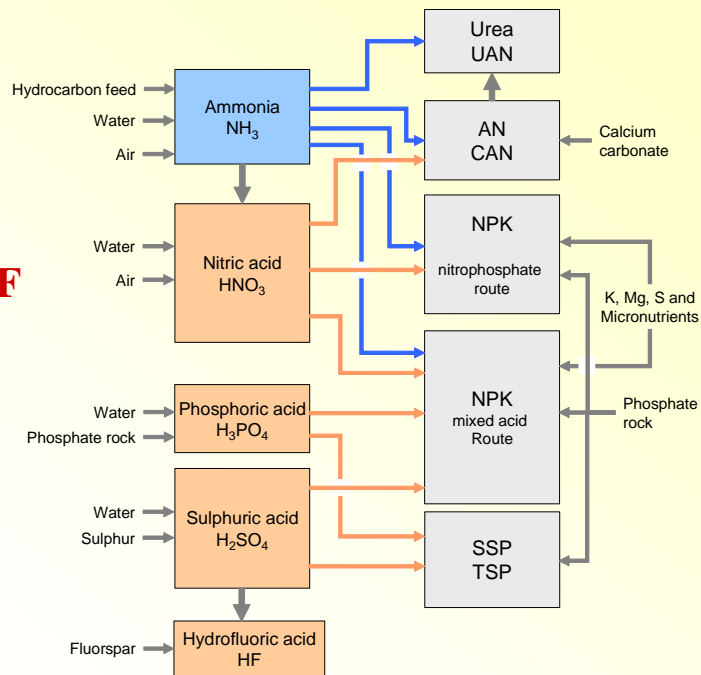
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BREF LVIC-AAF

Ammonia, Acids and Fertilisers



BREF LVIC-AAF

- Product by product assessment
- Product specific conclusions
- Common and generic issues
- Common and generic conclusion ?

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BREF LVIC-AAF

Product example:

Key issues for H₂SO₄

- *SO₂ conversion rates*
- *tail gas treatment ?*
 - *SO₃/H₂SO₄ mist*
 - *tail gas treatment ?*
- *related performance/emission levels*

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Product example:

Available techniques, e.g.:

- *Single/double absorption*
 - *5th catalyst bed*
 - *Cs doted catalyst*
 - *Wet catalysis*
- *tail gas scrubbing*
 - *etc*

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Product example:

Applicable/available/performance with, e.g:

- *Different and varying inlet SO₂ levels*
 - *Other inlet gas properties*
- *Various economic background*
- *New or existing installations*
 - *etc*

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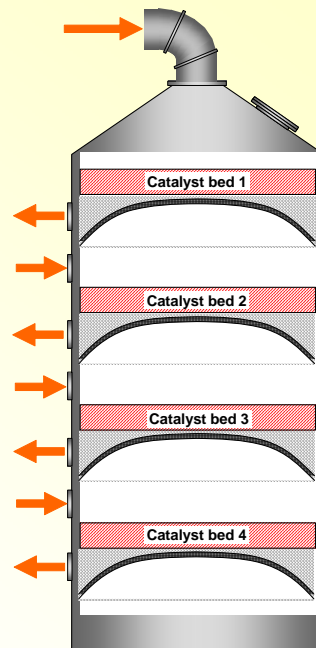
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Example:
Brick arch converters for
 H_2SO_4 production

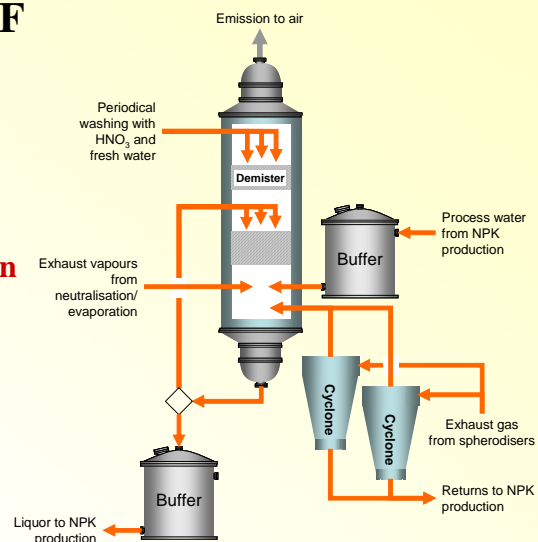
- still in use ?
- advantages/disadvantages ?
- achievable performance ?
- anyway to be replaced ?
- is this relevant for BAT conclusions ?



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Example:
Combined scrubbing of
exhaust gases from
neutralisation /evaporation
and granulation in NPK
production

- how does that work ?
- advantages/disadvantages ?
- achievable performance ?
- cost ?
- generally applicable ?



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Common/generic example:

Water balance on integrated productions sites ??

- *enables recycling strategies*
- *candidates: process, rinsing/cleaning water, condensates*
- *e.g. for scrubbing, filter washes, mother liquors, pulping*

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A good BAT conclusion might look like:

BAT is to by applying one or a combination of the following techniques and to achieve levels given in table xxx.

- *technique 1, if (condition), see (cross-reference)*
- *technique 2, applicable only for new plants, see (cross-reference)*
- *technique 3, where (condition) see (cross-reference)*
- *technique 4, see (cross-reference)*
- *technique 5, see (cross-reference).*

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When is the BREF ready ??

- technical part finalised before July 2006

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